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With Which Is Combined

PAPER

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Control of News Print Paper Output Opposed

Leading Manufacturers Fail to Reach Agreement Before Proposed Conference With Premiers of Quebec and Ontario and View With Disfavor Suggested Action By Provincial Governments—Conviction Growing That Competing Interests Are Preparing For Fight To Finish In Which Weaker Concerns May Be Forced Out of Business

MONTREAL, Que., September 10, 1928.—So far no progress has been made with the projected conferences for the setting up of some system for controlling the output of news print. Premier Baxter, of New Brunswick, has thrown one monkey wrench into the machinery by his emphatic declaration that the government of his Province will not be a party to limitation of output. Another monkey wrench has been thrown into it by certain of the larger interests in the news print industry who are said to be in opposition to any action by the governments of the Provinces of Quebec and Ontario in the matter.

The understanding was that a preliminary conference would be held between the paper producers so as to arrive at some basis of agreement before the Premiers of Quebec and Ontario conferred with them as to plans for controlling the situation. It now appears that the paper interests have held their conference and that their views were so opposed that no agreement could be arrived at, the only fact emerging from the conference being that the large producers viewed with distinct disfavor any action whatever by the Provincial governments.

Nothing is being given out for publication, and it is difficult to obtain any information, but the conviction is rapidly growing that things are shaping up for a fight to a finish between competing interests, with the possibility that weaker concerns will be forced out of business before the fight is over. It is further intimated, though on what grounds it is impossible to say, that such a fight would not be viewed with disfavor by some of the larger groups.

In view of the many rumors which are flying around, attention is inevitably directed to the vast program of expansion which the International Paper Company has pursued during the past few years, and is still pursuing. This company, by its acquisition of enormous forest areas in Canada and Newfoundland and by its development of large plants and stupendous power enterprises, has come to exercise a predominant influence in the news print field in North America, so much so, indeed, that the papers are discussing the question as to whether or not the ultimate ambition of President Graustein is to get full control of the entire situation and establish a news print trust without parallel in industry and finance.

The *Financial Post* appears to think that there is something in this suggestion, and in confirmation thereof quotes the rumor that negotiations have already taken place between the International Paper Company and the Abitibi Power and Paper Company for a merger which, if consummated, would bring under one control about 30 per cent of the news print industry of North America. In this connection it sees significance in the fact that the International Paper Company has (so it states) already purchased a minority interest in various companies, including the E. B. Eddy Company, and a controlling interest in the Bathurst Power and Paper Company.

The paper adds that if the above inferences are well founded, the present unsatisfactory situation in the news print industry must have been foreseen and provided for, adding: "It can be taken for granted, therefore, that the present somewhat unsatisfactory earning power position of the International Paper Company is no surprise to its management. It is probable, therefore, that the present situation of International Paper is merely regarded by the directors as an incidental step in its progress towards their ultimate objective which, as has been said, may be the control of the whole news print industry on this continent. It is impossible to say definitely that Mr. Graustein's one aim is to acquire control of the industry—but the signs and portents all point this way. Moreover, if such be his intention, he is going about it in a businesslike and efficient way. Many news print men admire the courage which he has shown in carrying out his plans, although some of them are inclined to feel that his program requires great speculative nerve in its execution. But everyone admires a good gambler. Still, Mr. Graustein has some way to go yet before he and his company sit in the position to which they apparently aspire."

Hoquiam Pulp Mill Is Given First Try-Out

[FROM OUR REGULAR CORRESPONDENT]

HOQUIAM, Wash., September 7, 1928.—The first smoke of a new industry for the Grays Harbor district poured out a few days ago from the giant stack of the Grays Harbor Pulp Company plant in Hoquiam as boilers and various machines in the huge installation were given their first operating tests. The "firing up" was believed to presage an early opening of the big mill, although company officials declared that as yet no date had been set for the beginning of operations.

The huge mill, which represents an investment estimated at $3,500,000, is practically completed. Most of the machinery and equipment has been set in position for operation and workmen are laboring overtime to complete the final details remaining before the plant can start its first stock-making run. A cargo of some 2,000 tons of sulphur recently was discharged at the mill dock and it is understood that other materials will be laid down within the next few days.

Pennsylvania Paper Mills on Normal Schedule

Manufacturers Generally Operating At Full Time Capacity Due to Broadening of Orders For Autumn Requirements—Local Distributors Experiencing Upward Trend With Passing of Vacation Period—Paper Converters More Active

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 10, 1928.—Now that the trade is settling down to autumn expansion, distributors are experiencing the upward swing that was forecasted in the preceding holiday week. With the return of travelers from seashore, mountain and country, business generally has improved and the trade is seriously interested in promoting the sales of paper that were postponed until the passing summer vacation gave opportunity for renewed buying in all lines of industries. Now that autumn needs are occupying the attention of the industrial world the demands for fine and coarse papers and converted products for packing and shipping purposes, as well as wrapping, have accordingly extended. While the demand is gradually broadening there is not a normal activity for the general list of paper but inquiries indicate that preparation for expanded buying is under way as stocking for future requirements increases with business extension.

Mills are now being placed on normal schedule of operation as the fall season requirements are represented in broadening orders being listed. Those manufacturers for the summer months limited to a five day week are now on full time. Board mills are more active as the box manufacturers are extending their production and holiday packages are ordered by the manufacturers and merchants with a view towards Yuletide preparation. Fine paper manufacturers are not as active as the wrapping paper and roofing makers. As the coming fall and holiday demands are anticipated by the converters of many lines of paper products there are extended operations among container and corrugated products manufacturers, fiber box makers and glassine and grease proof wrappers. Bags have been in heavier demand although the prices on September 1 were advanced 5 per cent by all the nationally prominent mills with local offices or sales branches. There has been a slightly improved condition among the converted corrugated container distributors where competition throughout the summer months was demoralizing and local dealers discouraged in the continuance of a profitable traffic in these commodities owing to inroads on prices made by out of town manufacturers. There has not been the dumping of cheaper grades of containers that was prevalent a few weeks ago when carload shipments of cheaply assembled corrugated containers were sold here at prices below the levels of last spring.

Kraft wrapping papers have been subjected to another advance in prices that brought them on a parity with the values sustained in early spring. Rolls are selling at 4¾ cents while sheets are quoted at 5 cents for the second grades and the No. 1 krafts hold to the higher values of earlier spring before the southern mills entered the markets here with attractive price concessions. These southern mills are now back to the normal and steadier prices of last year. However, the local jobbers are well stocked with the low priced krafts that were offered last July and late June so that prices for the newer goods were not effective in drawing local patronage in the current month offerings. It is expected that further price advances will be made in the coming months. Sulphite papers are generally strong. There has been no weakening in the prices of manila wrappings and all grades of manila envelope papers. All butcher wrappings are holding in a strong market and dealers are looking for an advance in the fall. Boards are moving steadily as there has been no reduction in the prices of raw materials, despite the quieter trend of the paper stock market. Very little accumulation of board makers' raw materials is to be found among the wholesale waste trade. Prices are expected to go higher before October 1. Tissues are strong and indications are that prices in these commodities, also, will be higher this autumn. Builders' supplies in roofings and boards and felts continue to hold to the summer schedule of activity, while prices remain unchanged. Sheathing and grey bogus papers remain unchanged.

The cotton twine market appears to be weaker, with the prices of cotton indicating the present dull situation. There has been no buying interest for the coming autumn stocking in the local trade where factory representatives have been unsuccessful in arousing the dealers towards preparation for the livelier demands of the late fall and holiday needs in twines, cords, etc. Paper tapes for wrapping purposes are likewise among the dragging stocks in a listless market.

Individual Drinking Cup Sales Convention

Stars of the sales organizations attached to the firms distributing the cups made by the Individual Drinking Cup Company, of Easton, Pa., were entertained at the sales convention held in the past week at the plant. Representatives of firms from distributive houses in all parts of the nation who during the year have scored in record orders for the individual cups were present. The manufacturers entertained the staffs at dinner and in a program of diversified outdoor pastimes which were given in conjunction with the business sessions and sales talks. John Salmon, who represents the local distributors—the Paper Manufacturers Company—was the "star" salesman from this territory and spent three days at the plant in Easton.

Cherry River Increases Bleaching Capacity

For the purpose of extending production of its bleached specialties the Cherry River Paper Company, with local headquarters in the Pennsylvania Building, has increased its bleaching capacity at the mills. The mills located in Richwood, Va., have been fitted with additional units to provide for this extension in production.

W. J. McGarity Resigns

Announcement has been made of the retirement of William J. McGarity from the vice-presidency of the Dill and Collins Company, owing to ill health. Mr. McGarity will continue to be a director of the company. His resignation followed several weeks of illness due to nervous breakdown from which he suffered this summer. Mr. McGarity is head of the Penn Paper and Stock Company and is secretary of the Philadelphia Wholesale Waste Merchants Association. He is now at Atlantic City recuperating. The vice-presidency will remain open pending his recovery. The mills of the Dill and Collins Company have been operating at full capacity.

Wholesale Merchants to Elect Officers

When the Wholesale Waste Merchants of Philadelphia meet in the resumption of the fall sessions on September 21, there will be held the annual election of officers. The organization is devoted to the business welfare of the wholesale merchants representing the mills and distributive paper houses handling orders in volume. There are enrolled in its ranks 95 per cent of the wholesale merchants of Philadelphia. Many constructive factors have been effected since the organization of the association two years ago.

Paul Kisstler Represents Analomink Co.

Paul Kisstler, who has been assisting the late general manager, U. M. Waite, of the Analomink Paper Company, of North Water Gap, Pa., in the Philadelphia trade, is now sole representative of the concern here. He will cover the entire industry formerly under the late general manager in this section. During the week he made the rounds of the dealers here with the entire assortment of papers produced by that concern. The Analomink Company

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is now producing a fine line of specialties, including colored grades of catalogue cover papers and textile wrapping papers.

J. A. Wantling Represents Continental

Philadelphia dealers handling the lines of the Continental Paper and Bag Corporation, with offices in New York, were informed by the Metropolitan headquarters that J. A. Wantling will cover the Quaker City industry as an assistant to the lately appointed wrapping paper manager here, Lewis T. Condon, who for many years has been identified with the Continental Corporation in this city. Mr. Condon, who has been representing the Continental here in a general way for several years, recently was assigned to take over all the wrapping paper trade as well as conducting his former offices. With the appointment of an assistant he was able to take a vacation and rest trip which will extend over several weeks. The newly assigned aid to Mr. Condon covered the local distribution field in the past week, making his initial rounds of the wrapping paper dealers.

Samson Cordage Mills Covers Trade Here

Jesse Foster, who is traveling representative for the Samson Cordage Mills, of Boston, Mass., called on the local trade in the current week to introduce the line of cords, twines and allied products manufactured by the Hub producers. The Samson mills have an accepted standard grade of cords and twines of excellent quality and these have been freely distributed in the city houses featuring a twine department. Despite the weaker trend of the cotton twine market the Samson Line was a favorite for fall stocking and many new colors were shown in the autumn samples.

Champion Coated Paper Co.'s New Line

There now is being distributed here a line of papers manufactured by the Champion Coated Paper Company, which recently has been added to the Philadelphia trade and known as the Parrian Dull Coated Papers. While this line has been perfected for some time it has never before been featured by the local dealers in fine papers who are among the Champion Coated Paper Company's patrons. The Parrian papers are grouped in the enameled book grades and are being stocked here by the Garrett-Buchanan Company and the fine paper house of A. Hartung, Inc. They are in white, ivory and India colors and are of standard grades and quality.

Progressive Paper Co. Moving

With the coming weeks, the Progressive Paper Company, now located at 266 South American street, will remove its stock to the new home located at 134 North Delaware avenue, where additional space has been acquired to provide for increased business. The firm has taken three floors in the new home to which it will remove by October 1. In the new quarters will be provided adequate storage facilities for volume stocking of No. 1 tissues in which the company has established an extensive business, featuring carload lots. These will augment the lines of specialties in twines, bags, and corrugated papers and wrapping grades.

Local Executives To Attend National Convention

Officials of the Philadelphia Paper Trade Association who will join the special session to be held at the National Convention by the presidents and secretaries of the various local bodies scattered throughout the country, are President Simon Walter, of the Quaker City organization, and head of S. Walter, Inc., who will be accompanied by Secretary Norbert A. Considine, president of the Paper House of Pennsylvania. The local officials will join the Round Table and Dinner to be held in the evening of October 1 when the National Association holds its fall convention in Chicago from October 1 to 3.

Thomas W. Price Co. Associates In Outing

Members of the staff of the Thomas W. Price Company, 503 Ludlow street, joined in the sporting and entertainment program provided by the fraternal organization of the company, the Vici Club, comprising the "stag" associates of the fine paper house, last Saturday at the outing held in the Brookline Square Club. The group of thirty members of the staff, including the shipping, sales and office department, motored to the grounds and after enjoying a noon luncheon entered enthusiastically into the many diversions provided under direction of Anthony Menke and Theodore Johnson, manager of the company. Others who joined in the arrangements for the afternoon's diversified program were Norman H. Fort, Lawrence Crouch and William Simmons. President Thomas W. Fort extended a word of greeting at the dinner hour during the service in the club house. The afternoon was given over to baseball, golfing, and swimming, interspersed with fun provoking novelty events.

C. M. Levis in Adirondack Camp

Charles Megarge Levis, of Curtis and Brothers, 15 South 5th street, with mills in Newark, Del., has been summering at his camp in Upper Saranac Lake in the Adirondacks. He will return to his desk after the mid month.

A. S. Datz & Son Increases Sales Force

A. S. Datz and Son, 28 South Marshall street, have added to their sales organization. David Keiser, who was connected with the D. L. Ward Company, and Thomas Convery, who was associated with the Paper House of Pennsylvania, are now covering Philadelphia for the Datz company.

J. R. Howarth Back From New England

J. R. Howarth, head of the Richie-Howarth Company, 804 Sansom street, is back at his desk following a tour of New England with a novel party idea in tourists' business arrangements which were followed out in the trip. The Howarth party of five formed a business group. Each was assigned to specific duties, such as a "banker," who financed the group from their deposited funds, and a business manager, secretary and entertainer, who provided the schedule of entertainments and sight seeing features en route. Mr. Howarth was assigned the duties of "business manager," providing the hotel and other lodging and accommodations for the group while they toured through New England, Canada and along the Great Lakes region.

Paper Mill Employment

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 5, 1928—There was a decrease in both employment and payrolls in the pulp and paper and paper box industries in July as compared with June according to figures just made public by the Bureau of Labor Statistics, Department of Labor.

Reports were received from 221 paper and pulp mills which gave their June employment at 58,430 decreasing in July to 58,150 a decrease of 0.5 per cent. The payrolls in these plants also decreased from $1,539,876 in June to $1,498,929 in July a decrease of 2.7 per cent.

The Bureau also received reports from 187 paper box factories which gave their June employment at 18,855 decreasing in July to 18,731 a decrease of 0.7 per cent. The payrolls in these factories also decreased from $435,972 in June to $416,339 in July a decrease of 4.5 per cent.

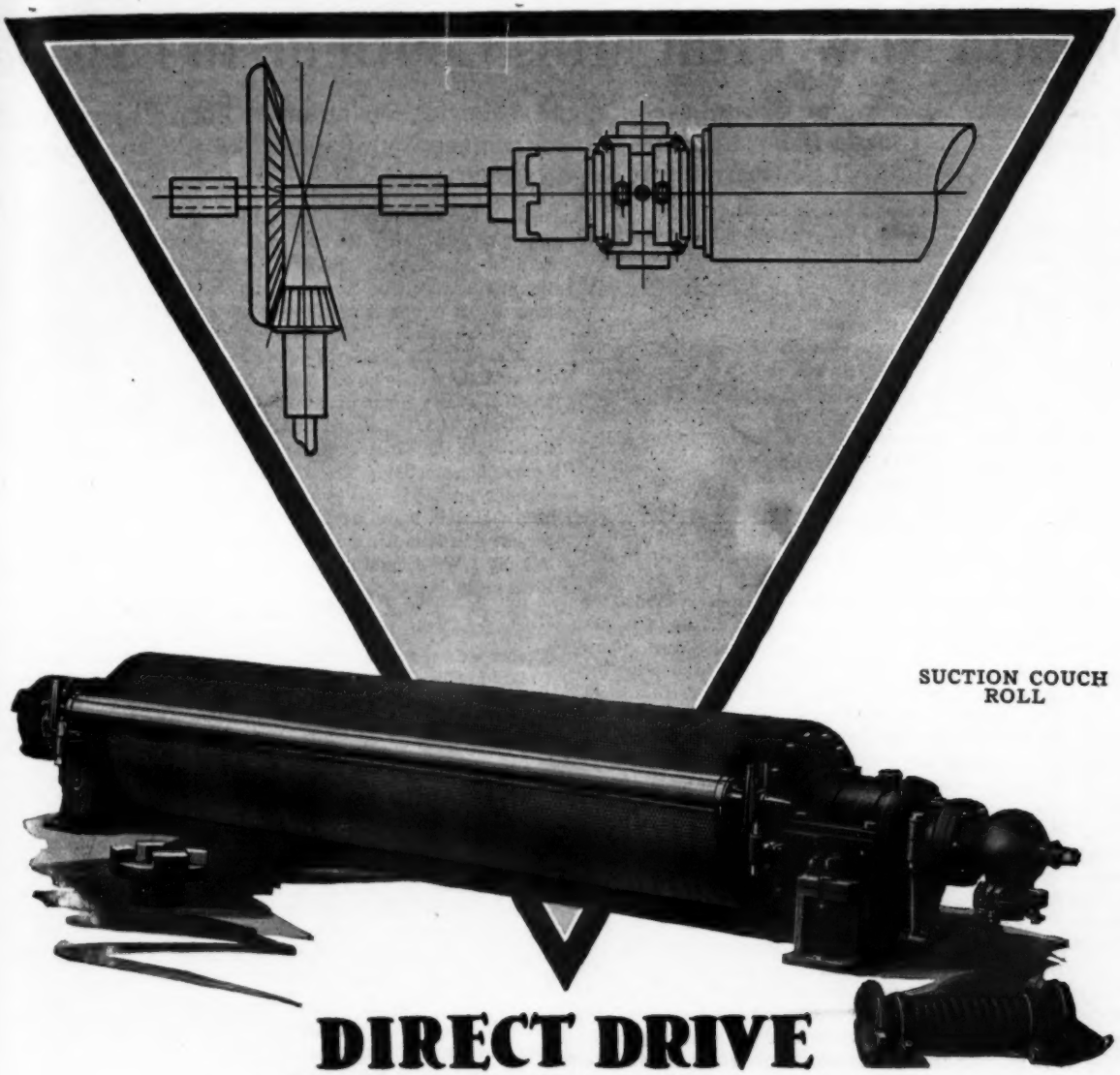
Crown Zellerbach Corp. Elects Officers

[FROM OUR REGULAR CORRESPONDENT]

SAN FRANCISCO, Cal., September 7, 1928.—I. Zellerbach was elected president of Crown Zellerbach Corporation at a meeting of the board of directors in San Francisco.

Louis Bloch was elected chairman of the board, M. R. Higgins, chairman of the executive committee, and E. M. Mills, A. B. Martin and J. B. Zellerbach executive vice-presidents, and H. L. Zellerbach, vice-president. D. J. Goldsmith was appointed secretary and A. S. Sonnenberg, treasurer.

All legal requirements to make the Crown Zellerbach reorganization effective having been completed and the California Commissioner of Corporations having authorized the issuance of stock, the meeting of directors was called for the purpose of carrying out the various steps that will make the plan effective.



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Ontario News Print Mills Continue to Expand

Big News Print Machine of Great Lakes Paper Co. Begins Operation at Fort William, While Another Large Unit Is Being Erected—Four Machines With Capacity of 420 Tons Daily Will Be Operating at Kapuskasing By End of Month

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, September 10, 1928.—The Great Lakes Paper Company, Ltd., Fort William, Ont., has put into effect a three-power system. The new news print machine has started operations. Joseph Dwyer is superintendent of the plant. The machine is 264 inches wide and was built by the Bagley & Sewall Company, of Watertown, N. Y., the unit being the largest paper machine ever built in the United States. This unit will be followed shortly by a second one 304 inches wide, now being built by the Watertown firm. It will be the largest paper making machine in the world. The 264-inch machine is 287 feet in length and its weight, without driving equipment, is approximately 1,570 tons. The shipment of the unit required in excess of sixty freight cars.

The machine is designed for a maximum speed of 1,500 lineal feet per minute, and it is interesting to note that at this speed a machine would produce 482 miles of paper, approximately 21 feet wide, each twenty-four hours.

In general the machine represents the very latest in design for high-speed paper making machines and is to be driven by a sectional electric drive built by the Canadian General Electric Company. During its construction at the Bagley & Sewall plant the machine was practically entirely erected prior to shipment and all revolving parts carefully tested and every attempt made to check accurately the many requirements. The paper travels through the new machine at a speed of 500 feet per minute.

The press part consists of three presses. The first press will be of the suction type and will have a 36 inch diameter suction roll with a 24 inch granite roll on top. The second and third presses are of the regular type and will have 34 inch diameter rubber-covered bottom rolls, with 28 inch granite top rolls. The bottom press rolls are carried on specially designed, self-aligning bearings, and the top rolls are carried on Timken roller bearings, with self-aligning housings. The felt rolls for the press part are of steel pipe, rubber-covered, and are 16 inches in diameter, all carried on Timken roller bearings. The press felts are each 60 feet long and a vertical motor driven felt stretch is supplied for each felt. By means of the presses the sheet passes to the dryer section approximately 30 to 33 per cent dry, and the remaining amount of moisture is then removed by evaporation, which is done on steam heated dryers. The dryer section consists of 48 dryers, 60 inches in diameter, carried on special heavy type Timken bearings. A continuous oiling system supplies fresh oil to all the bearings on the dryer part. The dryers are fitted with syphon pipes of steel tubing. Each dryer is fitted with a patented anti-friction packing box or steam joint, and these joints have special attachments whereby the position of the syphon pipes inside the dryers may be regulated by hand adjustments, thus eliminating the necessity of either hand holes or man holes in the dryer.

Power for driving the drivers is delivered to the dryer section in six individual places through six enclosed type spiral bevel gear units and there will be one stack of calenders having eight rolls, all 256 inches face. The bottom calender roll is 34 inches in diameter and will weigh approximately 30 tons. These rolls are all of chilled iron, highly ground and polished and by these means the sheet is given the required finish for printing purposes. The calender stack is fitted with electric hoist and all rolls are accompanied by brass lined, ring oiling bearings.

Pulpwood Peeling Season Has Ended

The pulpwood peeling season has ended in Northern Ontario and the Thompson & Heyland Company, Toronto, who will handle about 75,000 cords of wood this season, report that the cut by settlers, contractors and others will be 35 per cent below what it was last year. This decrease in the production of pulpwood has been brought about by the disturbed state of the paper market and the fact that most of the larger mills have been well stocked with raw material. The drop of fifty cents a cord in price has also had a deterring effect. The prevailing prices in Northern Ontario, f.o.b. cars, at the present time are as follows: for wood north of North Bay, peeled spruce and balsam, $9 to $10; peeled poplar, $5.50 to $6.00; south of North Bay, peeled spruce and balsam, $10.00 to $11.00; peeled poplar, $7.00 to $7.50. There is considerable wood along the Transcontinental and the T. and N. O. Railways as yet unshipped. Shipments are much better than for some time as with the stocks of wood in some of the mills falling low, they have been taking in more car lots. The demand for pulpwood at the present time is rather quiet but it is expected to pick up somewhat this fall when several of the smaller mills may enter the market for supplies.

Will Handle Pulp and Pulpwood

The Forest Hill Lumber Company, Ltd., which was recently granted a charter with an authorized capital of $40,000, has opened a retail lumber yard on the old belt line in Toronto, or what has been known as John Lucas Siding, just east of Bathurst street. The principals in the company are widely known lumber and pulp men. J. E. Finlay is the president, G. Finlay, vice-president, and J. A. Orton, general manager and secretary-treasurer. Messrs. Finlay and sons are manufacturers and wholesale lumbermen at Tory Hill, Ont., and propose continuing in the production of lumber, pulp, pulpwood, ties, etc., at their mills in that district, and the Toronto interests of the Forest Hill Lumber Company will be looked after by J. A. Orton, who has had a long experience and valuable insight in the wholesale and lumber business. He was for some years manager of the Dominion Lumber Company at Orilla and five years ago came to Toronto to take a similar position with the Myers Lumber Company, Ltd.

Spanish River's Bond Redemption

Abitibi Power and Paper Company, which controls Spanish River Pulp and Paper Mills, is taking steps towards the elimination of underlying Spanish River obligations. The latter company is calling for redemption outstanding $1,334,333 of its six per cent first mortgage bonds; $899,910 outstanding Ontario Pulp and Paper Co.'s sixes and $1,105,126 of Lake Superior Company's sixes. Both the latter were obligations of Spanish River. The Spanish and Ontario issues which fell due in 1931 are called for redemption at 110 and interest on October 1 next, while the Lake Superiors, due in 1934, are called at 105 and interest on March 1, 1929. Preliminary action has been entered by certain bondholders to prevent calling before due date, on account of an agreement made in 1924 by the Spanish River Pulp and Paper Mills when unable to meet interest and sinking fund requirements on these bonds. At that time bondholders agreed on a compromise whereunder they received a tithe of all future dividends to be paid on Spanish River common and preferred. This bonus has averaged over $140,000 for several years past, and as a big majority of these bonds have been retired through sinking fund and so lost their participating rights, the bonus value has increased on remaining issues. The action for restraint entered in Toronto by A. C. McMaster, K. C., on behalf of New York clients, has not yet come to trial, but is expected to be on the list this Fall.

To Build Plant This Fall

That Hinde and Dauch, of Canada, manufacturers of corrugated paper and shipping containers in Toronto, are going to build a large

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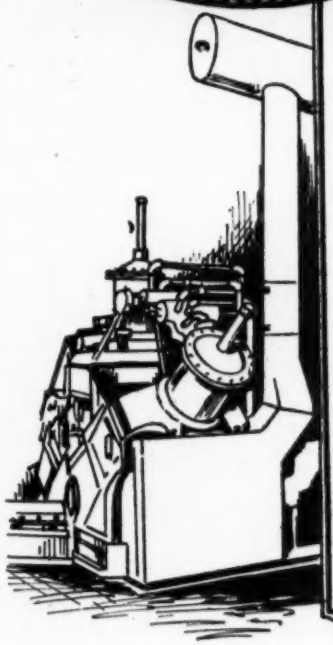

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addition to their plant this Fall seems assured. This follows announcement of plans under way for the construction of a new plant at Winnipeg or vicinity. Some time ago the company purchased property adjoining their Toronto plant and have now decided to go ahead with the building of an extension five stories in height. It is only nine months since an entirely new plant was completed and operations started by Hinde and Dauch at Trenton, Ont., for the manufacture of straw board. Earnings are stated to be running at a very satisfactory rate and the improvement in general business in the Dominion is being reflected in current and prospective sales. Hinde and Dauch ranks as the largest manufacturer in Canada of fiber shipping boxes and corrugated paper products, and is also the largest Canadian producer of straw paper for corrugating purposes.

Companies Unite in Making Experiments

The Federal Meteorological Service at Toronto, the Bathurst Power and Paper Company, and the New Brunswick Department of Lands and Mines, have been allied in an experiment which is expected to have far reaching results. At Great Falls, on the Nepisiguit River, N. B., a station has been established for the forecasting of fires and weather conditions. A beginning was recently made in the Toronto headquarters of the Dominion Meteorological Service. Two additional stations were established at Chipman, N. B., and Kedgwick, N. B. C. B. Hills, superintendent of the Great Falls power plant of the Bathurst Power and Paper Company, has been detailed to supervise the forecasting station there. The two remaining stations will be sending wires before the close of September.

Kapuskasing Mill to Start

The largest individual news print unit to be installed in Canada during the present year will be ready by the end of the month. That is the joint enterprise of the *New York Times* and the Kimberly-Clark Corporation at Kapuskasing, Ont. All four machines have already been delivered by the Dominion Engineering Company, and three are in operation to a certain percentage of capacity. The fourth will be ready by the end of September and it is expected they will be tuned up immediately after to an extent sufficient to enable the mill to supply all the requirements of the *New York Times*. This has been looked after for seven or eight years to a large extent by the entire output of the two largest machines in the Laurentide mill at Grand Mere, Quebec. This contract will terminate on December 31, 1928, the Kapuskasing mill replacing Laurentide in this respect. The total capacity of Kapuskasing will be about 420 tons of news print daily, what is not required for the New York paper being sold in the open market.

Notes and Jottings of the Trade

Llewellyn Williams, of Robert Williams & Son, Ltd., embossers and paper finishers, Chatsworth Mills, Manchester, England, was in Toronto a few days ago calling on the wholesale paper trade.

R. W. Lowman, of the Toronto office of the Hodge-Sherriff Paper Company, Ltd., is spending his holidays fishing in the Kawartha Lakes region of Ontario.

The marriage is announced to take place in Toronto this month of Rupert Huntley, son of A. Huntley, of the Hodge-Sherriff Paper Company, Ltd., Montreal, to Miss Davidson, niece of Francis Davidson, of Smith, Davidson & Wright, wholesale paper dealers, Vancouver, B. C.

A. P. Costigane, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, left Toronto this week on an official visit to the paper mills at Sault Ste. Marie, Kenora, Fort Frances and Pine Falls, Manitoba.

Provincial's Papyrus, the house organ put out by Provincial Paper, Ltd., head office Toronto, has a particularly striking cover for its latest issue, being done in two colors and reminding readers of the days when they visited the old swimmin' hole. The book contains a lot of interesting reading material for the wholesale paper men, the paper manufacturers and the printing trade.

Alec Dewar, who for several years was attached to the staff of the Abitibi Power and Paper Company at Iroquois Falls, Ont., has removed to Toronto. Previous to his departure from the North he was presented by the superintendents of the mill with a writing desk and the Iroquois Board of Trade also gave him a set of pipes.

The Pulp and Sulphite Local Union No. 133, Kenora, held a most enjoyable picnic on Labor Day to Rabbit Lake. A splendid program of sports was arranged and everyone thoroughly enjoyed the outing.

Gardner-Harvey Container Co. Formed

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 10, 1928.—The Gardner-Harvey Container Company has been formed at Middletown by E. T. Gardner and associates for the manufacture of a corrugated box-board container for shipping purposes. The concern is backed by the Gardner-Harvey interests, a seven million dollar concern. A contract has been awarded for the construction of a mill, to the F. K. Vaughn Company of Hamilton.

According to the Management, Engineering and Development Company of this city, which has prepared plans and specifications, there will be two separate buildings, both situated upon property adjacent to Colonial Hill, the site of the old Colin Gardner homestead and of three newer homes erected by the sons, Edward, Colin, Jr., and Robert. One building will be used as a warehouse to be a fireproof structure of brick and concrete 204 feet in length and 54 feet in width.

The main structure, that is the mill proper, will be constructed of the same material. It will be 540 feet in length and 120 feet wide and will cost approximately $200,000. An additional $100,000 will be expended for equipment and machinery, making the total investment $300,000, exclusive of the site.

The new plant will employ between 100 and 125 persons and it is expected it will be operating not later than January 1, 1929, as the contract has been awarded with the understanding that the warehouse and mill shall be completed not later than December 1, 1928, at which time it is proposed to install the machinery. One month's time, at least, will be required for this work.

Though Middletown has a paper product output of varied descriptions the corrugated container which the company will manufacture and market, is something new to the Paper City. The container will be manufactured out of chip board instead of straw board, the material now being used largely by manufacturers.

The site of the mill is well-located, being within easy access of the C. C. C. & St. L. railway, thus assuring ample shipping facilities. The material entering into the manufacture of the container will not be made in Midleltown. It will be procured from Southern factories located in a section where the raw material is plentiful and easily handled.

Edward T. Gardner has been elected president of the new company which promises to add substantially to Middletown's industries and to the interests of the Gardner Harvey group; Colin Gardner, vice president; and M. S. Johnson, secretary and treasurer.

These three officers, with the following, will constitute the Board of directors:—Thomas Harvey, Arthur Harvey, R. B. Gardner and T. D. Griley, the latter a resident of Columbus.

It is understood the contract for the machinery also has been awarded by the company. The equipment will represent the last word in container manufacturing.

To Let Contract for New Richvale Mill

RICHVALE, Cal., September 7, 1928.—The contracts for the building of the new paper mill in Richvale will be let on September 10, according to Arvid Lofgren, Richvale representative of the company.

Construction work will start as soon as the contract has been let and it is expected to have the mill in operation by March 1.

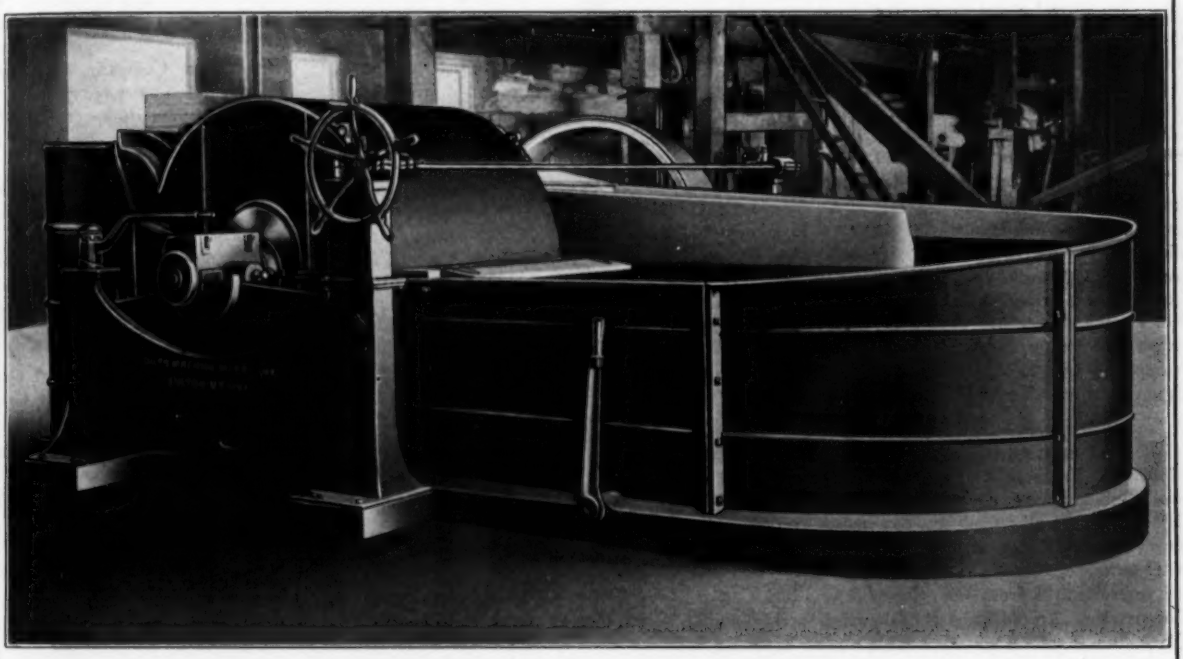
General Superintendent C. A. Kieren has started for New York to get options on the needed machinery. W. E. Martin, general manager of the company will be in Richvale in a few days.

"Your Paper is Made in your Beaters"

NEW TYPE

HIGH DENSITY

BETTER CIRCULATING



THE PROBLEM is "how to beat *more* stock into *better* quality with *less* cost for labor and power."

THE ANSWER is "the Dilts New Type, High Density, Better Circulating Beater, built with high tub and with the roll located toward the rear end."

We can rebuild your beaters to our NEW TYPE design.

Dilts

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE - 15 PARK ROW - NEW YORK CITY

"Your Paper is Made in your Beaters"

Paper Demand Shows Improvement in Boston

Volume of Orders for Various Grades of Paper Has Been Expanding Gradually Since Beginning of Month—Bonds and Ledgers in Very Lively Request—Coarse Paper Business Ahead of Last Year's Record—Box Board Steady To Firm

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., September 10, 1928.—Both fine and coarse papers continue stable, with some improvement. One dealer states that since the first of the month there has been a slight increase in the volume of orders, but that his business is not up to the usual amount at this time of the year. With some, bonds and ledgers are very lively, one house reporting a greater interest over that of the previous week. Prices of fine paper remain unchanged. Kraft is steady. A representative of one coarse paper house says that business is ahead of that of a year ago, and that August showed a greater volume of business than the corresponding month in 1927.

Box board has been steady during the week under review, with filled news around $47.50 and chip around $45. The expected advance is expected to materialize about the middle of the current month. It is felt that the rise will be from $2.50 to $5 a ton.

Old papers, bagging and rags have been rather quiet during the last week except for the lower grades. The holiday is said to have had some influence on the market. No. 1 books, heavy, are slightly lower on the minimum side, being quotable at 1.45 to 1.55, compared with a previous range of 1.50 to 1.55. Similarly, white blank news is quotable at 1.55 to 1.65, compared with 1.60 to 1.65. No. 1 mixed paper has shown a downward tendency, and is now listed at a flat price of .65, against a range of .65 to .70. Old newspapers have also declined slightly, on the high side, and are now valued at .65 to .67½, compared with .65 to .70.

News of the Trade

The first meeting of the season for the New England Paper Merchants Association is to be held at the Harvard Club of Boston, Thursday evening, September 13. It is expected that some of the members will attend the convention of the National Paper Trade Association of the United States at Chicago the first week in October.

Representatives from John Carter & Co., Inc., Carter Rice & Co. Corporation, Arnold-Roberts Company, and Knight, Allen & Clark, Inc., Eagle A service houses of the American Writing Paper Company, met in conference at a luncheon with Robert C. Fay, of the Standardization Department of that company, Thursday, September 6, at the Hotel Statler, this city.

T. R. Picard, W. F. Snyder, C. S. Newmarch, and K. P. Cushing, of the sales department of the Andrews Paper Company, Boston, visited the Brown Company's mills in Berlin, New Hampshire, recently, stopping at the Mount Madison House in Gorham, a few miles down the Androscoggin from the mills, and were shown the process of manufacture of some of the products which they have been selling. They found the trip well worth while, for the enjoyment of the mountain scenery as well as for the knowledge gained, and returned filled with enthusiasm and a lively appreciation of the courtesies shown them by Messrs. Corbin, Libby, Wardswell, and Cushing, in their respective departments of the Brown Company.

With a series of six "personalized" letters to a selected list of banks, department stores, and industrial concerns in New England, Carter Rice & Co. Corporation has inaugurated a campaign to call the attention of the recipients to the paper they are using for ledger purposes, particularly in regard to its permanency. Return cards are enclosed with the letters on which the recipients may ask for a sample book of permanent and semi-permanent papers containing accounting forms. The concerns to whom the letters are sent are asked to specify the kinds of papers they wish when placing orders with their printers or stationers. Carter Rice & Co. Corporation is not, however, soliciting orders direct.

Tileston & Hollingsworth Company has issued a third volume of "Your Photographer and Engraver," a directory of commercial photographers and photo engravers and reference booklet for the New England printer. The directory contains samples of the work of concerns and individuals, shown on Athena Plate, Silk Surface and Crinoline Super Plate.

The Pratt Paper Company has become exclusive distributor of Union watermark papers for Massachusetts, Rhode Island and Connecticut.

T. C. Greene, of the T. C. Greene Paper Company, entertained several of his printer friends at his farm at East Greenwich, R. I., over the Labor Day week-end. The program of sports included a tennis tournament, in which Larcom Randall, of the Lawrence Press, was winner.

W. E. Bartlett, who has been with the Proctor Paper Company for eight years, has resigned his position to enter the tobacco business in Lowell, Mass.

Franklin Spaulding, president of Spaulding & Tewksbury Company, has returned from a business trip to Connecticut.

W. N. Stetson, Jr., vice-president of Storrs & Bement Company, has returned from a month's vacation in Maine, New Hampshire and Cape Cod.

R. W. Seymour, of the salesmen's staff of the Pratt Paper Company, is expected to return today from a vacation at Battle Creek (Mich.) Sanitarium.

The Rogers Fibre Company, consumers of strings and old rags, whose mills are in Maine, has leased the Star Hosiery Company, Spartansburg, S. C., for the manufacture of leatheroid products.

Paper Demand Good in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., September 10, 1928.—Local distributors seem fairly well satisfied with the paper business during the first week in September. The jobbers are viewing with considerable interest the evident desire on the part of manufacturers to sell merchandise. In fact the jobber appears to be able to get merchandise somewhat cheaper than he expected because of this terrible press for business. The result has been rather the opposite from that expected, for the jobbers, with fairly well balanced stocks, are not buying only what is necessary to maintain this balance.

Northern manufacturers are actively in competition with those in the East for boards, specialties, glassine products and wrapping paper, the latter coming more into retail demand as the fall season begins.

Seasonal specialties, such as napkins, towels, paper cups and plates have had a good time this summer. The demand has been good but just now the trade is turning to other lines. Demand for print paper this week was somewhat better than last, though the newspapers have not yet reached the peak of the fall advertising period. The indications point to a good fall, however, for business generally is perking up a little.

Printers also report bright prospects for fall business. Already several manufacturers are figuring on their annual catalogues and the demand for fine paper to be used in advertising campaigns of one sort or another, should be very good.

The paper roof and paper board business is expected to hold up good during the fall and late fall, there being a good volume of building in prospect, particularly for the rural communities.

Without Power of Any Kind Regulate Stock Density Instantly

The DeZurik Stock Consistency Regulator does more than indicate the density of the stock—it regulates the density—*instantly*. With it no stock is out of balance with the weight required for a particular run. The exclusive features of the DeZurik Stock Consistency Regulator makes possible this instantaneous operation.

All stock is regulated, and corrections made instantly. No stock can go over the machine while the valve is being closed or opened, so there is no chance for any stock to be of different density than stock that passed through previously.

And, the operation requires no power of any kind—unlike similar devices that usually operate by electric motor. The operation cost, hence, is negligible—but the results absolutely certain and definite.

A careful investigation of the DeZurik Stock Consistency Regulator is warranted. Let us send you complete details about it. Write today.

VALLEY IRON WORKS CO.

Machinery for Paper and Pulp Mills

APPLETON WISCONSIN

New York Office: 350 Madison Avenue

Western Manufacturing and Sales Division: Smith & Valley Iron Works Co., Portland, Ore.

Chicago Paper Market Trend More Favorable

Demand For Practically All Grades Shows Improvement and Increased Volume of Business Is Transacted—Outlook For Fine Paper Section Considered Decidedly Promising—Book and Cover Paper in Excellent Request for the Season

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., September 10, 1928.—The trend of the market in Chicago and its immediate vicinity is becoming more favorable as fall moves in. Brisk, cool weather during the past week has had an effect on demand and the volume of business is said to have increased.

Fine papers are slowly improving and, within the next month are expected to make a material improvement for the better. Prices are steady and the volume growing. In the book and cover paper field the force of some high class direct mail matter is being felt and these grades are experiencing a more brisk demand that is expected to continue. News print is much the same as last week according to reports, with a heavy production fairly well taken up in this vicinity.

Paper Board Industries Fall Meeting

The Paperboard Industries Association has made public its program for the coming fall meeting to be held at the Palmer House, Chicago, September 19 and 20. An item of unusual interest will be the report of the association's special committee, appointed at the July meeting to make recommendations with respect to a suggested trade practice conference before the Federal Trade Commission. This is a subject in which every manufacturer in the industry is vitally interested. It is understood that the committee will submit to the membership a number of suggested rules, the idea being that if these proposals are approved by the membership, steps will be taken to present the program to the Federal Trade Commission for adoption as recommended trade practices for the industry.

The September meetings are also unusually important in that each of the three groups will appoint two members to serve on the general nominating committee which shall nominate a president to be elected at the November (annual) meeting. The individual groups will also appoint committees to submit nominations for group officers for election at the annual meeting.

Special Invitation To Manufacturers

A special invitation is being extended to the manufacturers of suit boxes to attend the meeting of the Folding Box Group on September 19 and also the general meeting on September 20. It is believed that a discussion of the problems of the suit box industry will be of particular value and every manufacturer of this particular product, including members and non-members, has been requested to attend.

Schedule of Meetings

The schedule of meetings, all given in daylight saving time, follows:

Wednesday, September 19, from 10:00 a.m. to noon, the Folding Box group will meet. In the afternoon from 2:00 to 4:30 the Paperboard group will hold its discussions. The Container group will convene Thursday morning at 10:00 in a meeting that is expected to last until 12:30. All members will hold a luncheon at 12:45 on Thursday. The three groups in joint session will hold their general meeting from 1:45 to 4:15 Thursday afternoon. Standing committees will meet Tuesday morning, September 18, while the Executive Committee will meet at 1:30 p.m. of the same day.

Chicago Paper Association Plans

The next meeting of the Chicago Paper Association is scheduled for Tuesday evening, September 11, at the Bismarck Hotel. A good deal of the time will be spent in discussing the pending engagement of a company to take up the secretarial duties of the organization. Members are also looking forward to a delightful fall outing on September 26, when D. F. Peck, president of the Hanchett Paper Company, will entertain the Chicago Paper Association to a round of golf at the Medinah Country Club. In the near future the Association plans to entertain members of the Milwaukee coarse paper association and, in the meantime, plans are going forward rapidly to better trade conditions and practices in the Chicago market.

Dr. G. C. Stewart to Address Salesmen

The Salesmen's Association of the Paper Industry will hold its first fall meeting of the year Monday, September 10, at the Hamilton Club and a large turnout is expected to hear Dr. George Craig Stewart of Evanston, Ill., chaplain of the association. At this first meeting plans for the coming fall and winter meetings will be discussed. H. R. Knott, Eastern Manufacturing Company, president of the local division, has a number of fine ideas to stimulate interest in the association. In the meantime the golfing members of the group will fight it out to the last ditch at the Wilmette Country Club, September 13, when all previous winnings will be forgotten in a free for all battle for final honors.

Cornstalk Products Shown at State Fair

The Illinois Chamber of Commerce had an exhibit at the Illinois State Fair at Springfield which contained a number of products made from cornstalks by the Cornstalk Products Company, Inc., of Danville, Ill. This firm is turning out an appreciable quantity of pulp from cornstalks that is proving highly acceptable for a number of grades of paper. It has been shown, according to the company, that the highest grade of paper and the finest grade of tissue paper can be and is being made commercially from the once lowly cornstalk. Samples of the different grades of paper were shown in the exhibit, including bales of the raw materials, glass jars showing the different stages in the manufacture of pulp, both bleached and unbleached. A unique method of paying the farmer for the cornstalks has been devised. The company contracts to husk the corn and, in payment, asks for the cornstalks. The Illinois Chamber of Commerce is considering the use of paper made from Illinois cornstalks for its regular letterheads.

News of the Trade

The S. D. Warren Company continues to make use of the new postal rates on mailing cards and has recently sent out a folder describing Warren's Silkote Post Card which is said to print pictures and color exceptionally well. The paper used in the folder describing the mailing cards is printed on the Silkote card —Dullo—Enamel (White) 22½ x 28½—130. It is made in white and India in three post card weights, 100, 130 and 150. The folder also calls attention to a book from the Warren More Business Series entitled "More Business Through Mailing Cards," which gives a number of uses and advantages of mailing cards and also reproduces a large number of cards demonstrating folds, sizes, typography and appeal.

J. B. Jones, Western Newspaper Union, Omaha, is back on the job after an enforced vacation of two or three weeks and his friends in Chicago are mighty glad to greet him again.

S. J. Hodgins, president of the Central Topeka Paper Company, was in Chicago for a few days this week en route to his home in Topeka, Kansas, after a motor tour vacation in Canada and a portion of the Eastern states.

Stronger Wrapper

from Groundwood Screenings

GROUNDWOOD screenings can be made to produce stronger wrapper. Refining them in the Marcy *Open End* Rod Mill will do it.

Stronger wrapper comes from the better fibers produced because of the beating action of tumbling rods on thick pulp.

And in addition, considerably less power will be used than is now used in the refining.

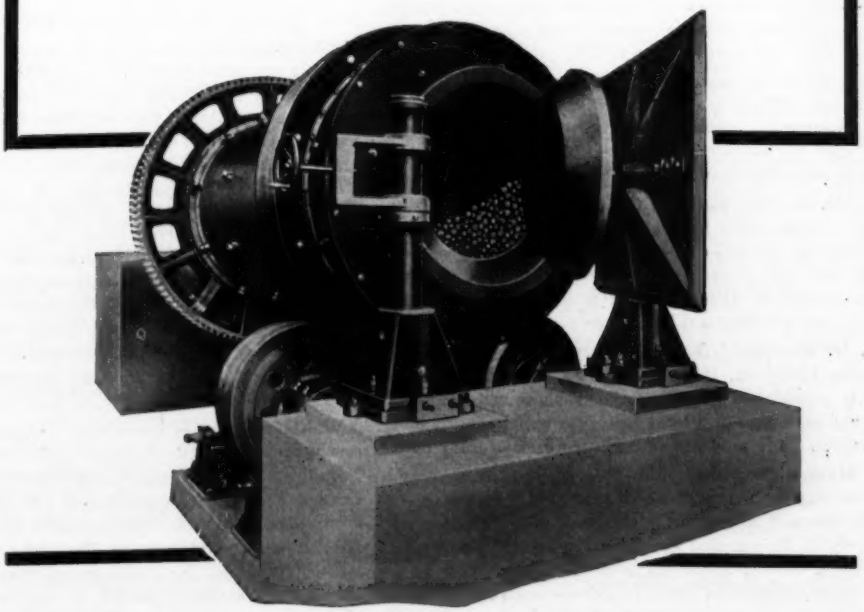
Bulletin No. 75 gives more details. Send for a copy of "Beating and Refining with the Marcy *Open End* Rod Mill."

The MINE and SMELTER SUPPLY COMPANY

NEW YORK DENVER

Licensee under the Marcy Rod Mill Patents.

Manufactured in Canada by William Hamilton Limited, Peterborough, Ontario.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Chicago, Ill.—The American Carton Corporation, 4936 South Rockwell street, has completed plans and will begin work on a new one-story plant unit, 80 x 211 feet, estimated to cost about $40,000, for which general contract has been let to A. Low, 510 North Dearborn street. T. B. Jorgensen, 510 North Dearborn street, is architect, in charge.

Spartanburg, S. C.—The Rogers Fibre Company, Kennebunk, Me., has arranged for lease of plant of the Star Hosiery Company, Arch street, Spartanburg, and will remodel and improve for a new branch plant for the manufacture of fiber products of various kinds, including containers. It is proposed to remove certain equipment from the Kennebunk mill to the new location, and additional machinery will be provided. It is purposed to have the new plant ready for service in October.

Munising, Mich.—The Munising Paper Company has been carrying out an expansion and improvement program at its mill, and is now running on an increased production schedule. It is said that during the past 24 months, the company has expended close to $500,000 for extensions and betterments in bleached sulphite paper division, as well as departments devoted to waxed papers, envelopes and other specialties.

Baltimore, Md.—The First Fireproof Paper Company, Title Building, recently organized by Abraham White and associates, is said to be planning the early operation of a local plant for the manufacture of special paper products.

Rising Sun, Md.—The Cecil Paper Mills, Rising Sun, near Elkton, have resumed production after a shut down for several months. Repairs and improvements have been made to equipment, and it is proposed to continue manufacture for an indefinite period, with employment of full working force.

Neenah, Wis.—The Bergstrom Paper Company, West Wisconsin avenue, has awarded a contract for roofing its new boiler plant, now in course of construction, and expects to have the unit ready for service at an early date. Orbison & Orbison, 110 West College avenue, Appleton, Wis., are architects and engineers.

High Point, N. C.—The Carolina Containers, Inc., organized by Charles T. Ingram, High Point, and associates, is said to be planning an early call for bids on general contract for its proposed local one-story mill, 200 x 300 feet, for the manufacture of corrugated paper containers. It is estimated to cost close to $90,000, with equipment, list of which will be arranged at an early date.

New York, N. Y.—The Jefferson Paper Company has been formed by Julius Kleinberg, 1165 West Farms Road, Bronx, and associates, with a capital of $30,000, and has plans maturing for establishment and operation of a local factory for the manufacture of paper specialties. It is proposed to begin work at an early date.

Lawrence, Mass.—The Champion International Company, Canal street, has begun the erection of a new pulp mill unit, one-story, 55 x 240 feet, and will rush the structure to completion. A list of machinery to be installed has been arranged. The entire project is reported to cost about $115,000. L. E. Loche & Son, Bay State Building, Lawrence, are general contractors.

Appleton, Wis.—The Appleton Coated Paper Company, North Meade street, has superstructure under way for its proposed new addition, one-story, 107 x 240 feet, estimated to cost close to $130,000, with equipment, and is awarding miscellaneous contracts for steel sash and other finishing materials. It is proposed to have the unit ready for service at earliest date. Lockwood, Greene & Co., 400 North Michigan avenue, Chicago, are architects and engineers.

New York, N. Y.—In connection with recent acquisition of patent rights by the International Paper Company, 100 East 42nd street, covering mulch paper, comprising a kraft paper stock impregnated with asphalt, the company is said to be planning for extensive production of the new specialty at one of its southern mills.

Kapuskasing, Ont.—The Spruce Falls Pulp and Paper Company, operated by the Kimberly-Clark Corporation, Neenah, Wis., is pushing completion work on the fourth and last unit at its local news print mill, and proposes to have the structure ready for service in October. The plant will be developed to a capacity basis by the close of the year. F. J. Sensenbrenner is president of the Kimberly-Clark organization.

Richvale, Cal.—The Pacific Coast Pulp and Paper Company, recently organized, has perfected plans for its proposed new pulp and paper mill at Richvale, and will proceed at once with foundations for initial structures, comprising a group of one, two and three-story buildings, for which general erection contract has been let to T. B. Hunt, 1510 Thirtieth Street, Sacramento, Cal. The plant will operate on grape vine waste as raw material, and is estimated to cost close to $1,000,000 with equipment. In addition to main structures, a power station, machine shop and other auxiliary mechanical units will be built.

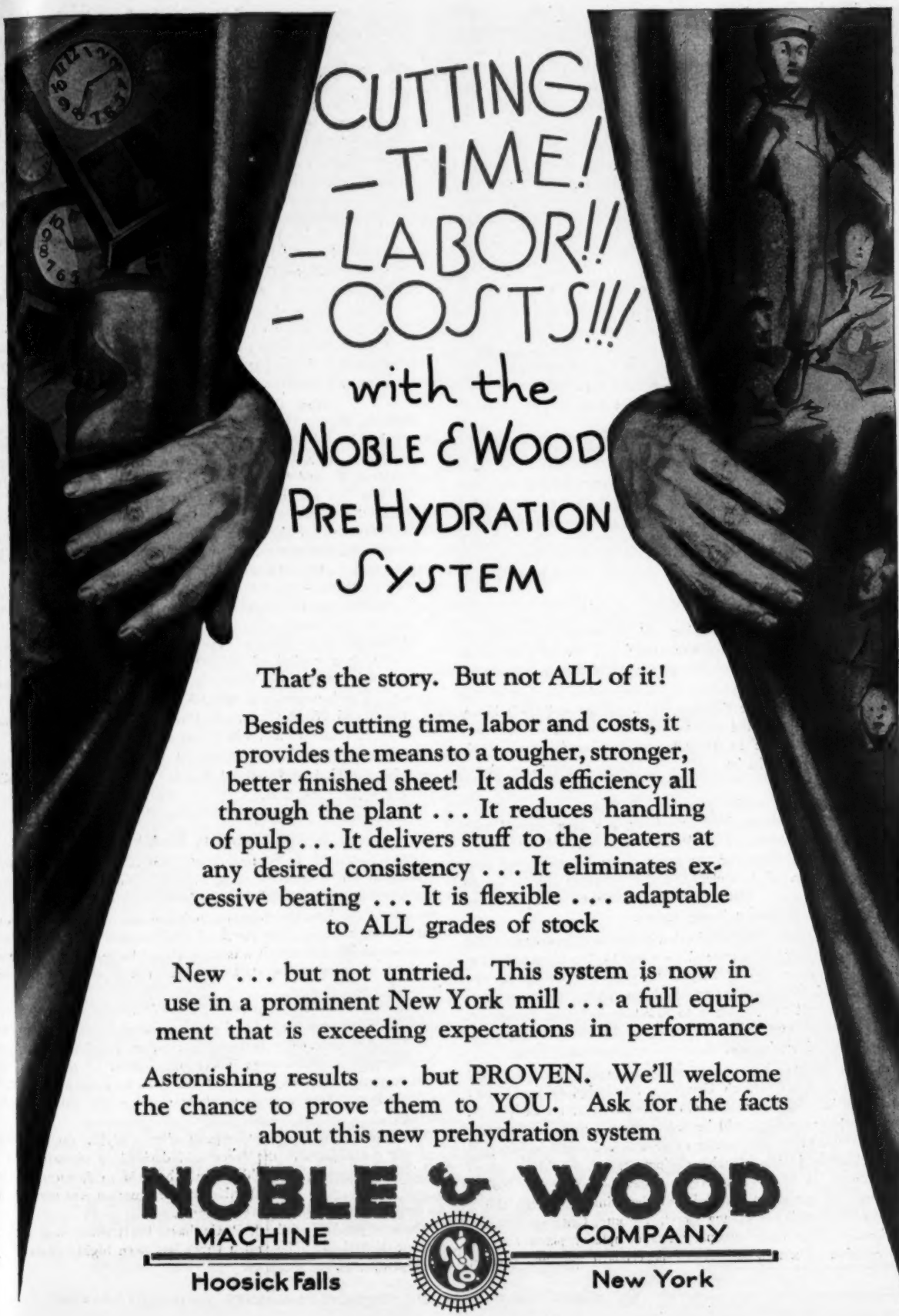
Pittsburgh, Pa.—The Grant Paper Box Company, Pittsburgh, recently organized by Walter S. Grant, Pittsburgh, and associates, with capital of $50,000, plans the operation of a local plant for the manufacture of paper and fiber boxes and containers. Bernard M. Grant and A. M. Oliver, both of Pittsburgh, are interested in the New Company.

Boston, Mass.—The Tileston & Hollingsworth Company, 213 Congress street, will proceed with erection of a new one-story addition on River street, 105 x 110 feet, brick and steel type, for which general contract has been let to the Morton C. Tuttle Company, Park Square Building, Boston. It is reported to cost close to $70,000, with equipment.

Monroe, Mich.—The River Raisin Paper Company is carrying out an expansion and improvement program at its mill and will provide facilities for about 10 per cent in present capacity. The storage department at the mill will also be increased.

Waltham, Mass.—The Stony Brook Paper Company, recently organized with capital of 500 shares of stock no par value, is said to be planning the operation of a mill in this vicinity. Horace Z. Landon, Waltham, is president, and Marion Haines, Cambridge, Mass., is treasurer and representative. Joseph W. Bartlett is also interested in the new company.

Chicago, Ill.—The Container Corporation of America, Inc., 111 West Washington street, is said to be planning a call for bids before the close of September for its proposed new corru-



That's the story. But not ALL of it!

Besides cutting time, labor and costs, it provides the means to a tougher, stronger, better finished sheet! It adds efficiency all through the plant . . . It reduces handling of pulp . . . It delivers stuff to the beaters at any desired consistency . . . It eliminates excessive beating . . . It is flexible . . . adaptable to ALL grades of stock

New . . . but not untried. This system is now in use in a prominent New York mill . . . a full equipment that is exceeding expectations in performance

Astonishing results . . . but PROVEN. We'll welcome the chance to prove them to YOU. Ask for the facts about this new prehydration system

NOBLE & WOOD
MACHINE COMPANY
Hoosick Falls New York

gated board mill on Ogden avenue, to be two-story, reported to cost in excess of $800,000, with machinery. Francisco & Jacobus, 360 North Michigan avenue, Chicago, and 511 Fifth avenue, New York, are architects and engineers. Recent report of award for work for company to Blauner & Davies, 1528 North Claremont avenue, was premature and does not cover this project.

Bangor, Mich.—The Ex-Cel Paper Company, Bangor, is said to be planning an early call for bids on general contract for its proposed new local mill, for which plans are being arranged by Billingham & Cobb, 211 Woodward avenue, Kalamazoo, Mich., architects and engineers, and will proceed with actual construction immediately upon award. The plant will be one and two-story, estimated to cost close to $500,000, with machinery.

Salisbury, Conn.—Dard Hunter, Inc., recently formed under Connecticut laws by Dard Hunter, Chillicothe, and associates, is making ready for early operations at its proposed mill at Lime Rock, near Salisbury, comprising former plant of the Barnum & Richardson Company, manufacturers of mechanical products. The new mill will be devoted largely to hand-made papers, following the line of output of Dard Hunter's Paper Mill at Chillicothe, and complete machinery for this purpose will be provided. It is reported to cost close to $90,000.

Muskegon, Mich.—The Michigan United Paper Company is perfecting plans for early operations at its proposed new local mill for the manufacture of asphalted paper stocks, etc., and will develop large capacity. The former local plant of the Muskegon Extract Company is being remodeled and improved for the mill, with installation of necessary equipment. The company was organized recently as an affiliation of the United Paper Company, East Braintree, Mass. C. N. Sessions, Muskegon, is vice-president, in charge.

Monroe, Mich.—The Monroe Paper Products Company has work in progress on an expansion and improvement program at its mill, and proposes to increase production facilities by about 25 per cent. Considerable additional equipment will be provided.

Jamaica, L. I.—Fire, August 26, destroyed a portion of the plant of the Asphalt Tile Company, 94th avenue and 138th Place, manufacturer of asphalted papers, etc., for roofing service, with loss reported at close to $50,000, including equipment. It is said that the plant will be rebuilt. Charles Thackery is superintendent.

New York, N. Y.—The Rinkleproof Box Company, Inc., care of A. H. Goodman, 1482 Broadway, has been formed with a capital of 1900 shares of stock, no par value, and plans early operation of local plant for the manufacture of cardboard containers, boxes, etc. It is understood that property will be leased for proposed works. Emlie Smith, 14 Arizona Avenue, Long Beach, Cal., is one of the incorporators.

Sacramento, Cal.—The Zellerbach Paper Company, 1213 Front st, has awarded a general contract to the Campbell Construction Company, 800 R Street, for the erection of a new four-story and basement factory and warehouse building, 50 x 125 feet, reported to cost close to $125,000, including equipment. It is understood that unit will replace a building destroyed by fire a number of weeks ago.

Winnipeg, Man.—In connection with proposed new local mill of the Hinde & Dauch Company, Sandusky, Ohio, recently reported, it is said that a site will be acquired at an early date, while actual construction will be deferred until early in the coming year. The plant will consist of several units and is expected to cost close to $1,000,000, with equipment. O. H. Moore, general manager, is in charge. It is understood that the project will be carried out as an enterprise of the Hinde & Dauch Paper Company of Canada, 43 Hanna street, Toronto, Ont., an affiliated organization. The latter company has completed plans for the early erection of a new corrugated paperboard mill at Toronto, to be one and two-story, and basement, brick, steel and reinforced-concrete, reported to cost close to $450,000, with equipment. General contract for building has been let to a local company.

Monroe, Mich.—The Consolidated Paper Company has completed the construction of its new unit for the manufacture of boxes and containers, and full capacity will be developed at the plant at an early date. It will provide for considerable increase in production facilities at the mill and represents an investment of more than $250,000.

Chicago, Ill.—The Sullivan Envelope Company, Inc., 2035 Charleston street, recently organized, plans operation of a local plant for production of envelopes and kindred paper goods. The new company is headed by R. J. and R. G. Crossley, and will be represented by F. B. Crossley, 357 East Chicago avenue.

Cincinnati, Ohio—The Formica Insulation Company, 4614 Spring Grove avenue, manufacturer of fibre insulation products, has awarded a general contract to the Ferro Concrete Construction Company, Cincinnati, for a new addition to its mill, making the sixth plant unit, to be three-story, totaling close to 20,000 square feet of floor space, reported to cost in excess of $75,000, including equipment.

New Companies, Financial, Etc.

Detroit, Mich.—The Wayne Fibre Company, 974 Sherman street, has been incorporated with a capital of $25,000, to manufacture fibre products, etc. The incorporators are Samuel Trunsky, Alfred W. and George Polasky, 9043 Dexter Boulevard, Detroit. The last noted is company representative.

Coatesville, Pa.—Walter E. Greenwood and Vincent R. Hann, receivers for the Ajax Paper Mills, Inc., with local mill, are arranging for the sale of the property of the company, including real estate, mill buildings and machinery.

Detroit, Mich.—The Detroit Paper Sales Company has filed notice of change of company name to the Detroit Paper Company.

Pittsburgh, Pa.—Morris Paper Company has been incorporated with a capital of $50,000, to manufacture and deal in paper goods of various kinds, including paper bags and containers. The incorporators are Albert L. Lange, Morris and B. S. Balter, 5545 Woodmont street, Pittsburgh. The last noted has been elected treasurer and will act as company representative.

Kalamazoo, Mich.—The Standard Paper Company, operating with a capital of $1,000,000, has filed notice of company dissolution under state laws.

I. P. Co. Exhibits Mulch Paper

GLENS FALLS, N. Y., September 10.—One of the most interesting exhibits at the New York State Fair in Syracuse last week was that of the International Paper Company, showing the newest product of the firm, mulch paper, designed as an aid to farmers in raising better crops. The booth of the International Paper Company containing the exhibit was daily visited by thousands, farmers from all sections of the state showing keen interest in the new product.

Some time ago farm experts discovered that the placing of old newspapers between the rows of growing plants resulted in sturdier plants and consequently better crops. The practice has grown considerably among farmers in certain sections of the state but until recently old newspapers and other waste papers were used exclusively as there was no specially made mulch paper on the market.

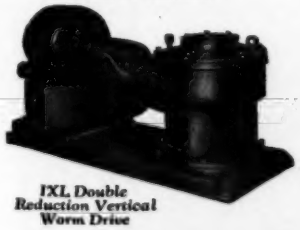
The International Paper Company after studying the situation and the possibilities in the farm field decided to manufacture a specially prepared paper which could be sold to farmers at the lowest possible cost. Considerable experimentation was carried on before the present paper was perfected.

The new product of the I. P. Co. has a kraft paper base with a coating of asphalt. The mulch paper has been highly praised by leading farmers.

"We found just the Agitator Drive we need"

IXL "HyGrade" Vertical Worm Gear Drive

IXL Vertical Bevel Reducer or Increaser



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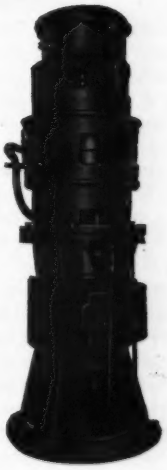

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Ancient Paper Making In Japan

By R. S. Kellogg[1]

Several hundred years ago Jihei Kokto, a native of Sekishu Province in Southern Japan, made the first paper in that province and finally wrote a book entitled "Kami Suki Chohoki" or Paper Making Handbook. A copy of this book is said to have been found about 130 years ago near Osaka. It has been exactly reproduced in both text and quaint old-style illustrations on the same kind of hand-made paper as the original, which is known as *Sekishu Hanshi*. The term *Hanshi* usually denotes a light-weight paper made by women, while *Sugihara* is the name of a heavy paper made by men.

The few existing reproductions of Kokto's book are not for sale in Japan, but recently Shigeo Nakane, a resident of Tokio who studied at Columbia University and who has worked in American paper mills, obtained two copies, one of which he sent to Dard Hunter, the only maker of hand-made paper in America, and the other to Secretary Kellogg of the News Print Service Bureau. Mr. Nakane accompanied the book with explanatory notes in English, which, together with the excellent illustrations, make very plain the whole process as carried on by Jihei Kokto.

Cultivation of Mulberry Tree

Kokto begins by describing the cultivation of *Makoso,* the kind of mulberry tree preferred for paper making. It was propagated by planting a root cutting about three inches long and was said to grow about one foot during the first year and two or three feet during the second year. At five years of age, the stems were cut and both the method of cutting with a sickle-like instrument and the sprout reproduction from the stumps for the next crop of paper making material are clearly illustrated. In Kokto's time another similar tree called *Takaso,* which grew very easily and made a lower grade of paper was even more used than *Makoso.*

The harvesting of the mulberry sprouts was usually done in October. The sprouts were cut into three-foot lengths, put up in bundles, sold by weight, and perhaps transported some distance for a further stage in the process, which consisted in steaming the stems in a pot about two and a half feet in diameter, after which the bark was peeled off in long strips and hung on a pole to dry for two or three days, the wood being used only for fuel. After drying, the strips of bark were bundled and sold to dealers in such material, who might be compared to present-day dealers in rags or wood pulp.

In the Hands of the Paper Maker

Coming at last into the hands of the actual paper maker, the strips of dried bark, called "skins" in the Japanese equivalent, were soaked in running water for from twelve to twenty-four hours. The illustration in Kokto's book shows a workman on a platform at the edge of a swiftly flowing brook, carefully placing a pole with its dependent strips of bark in the forks of two sticks driven in the stream bed. Next the strips were put on a table and the dark, coarse outer bark carefully shaved off with a knife which resembled a butcher's cleaver. The outer bark was used only in making the lowest grade of paper. The white inside bark was washed again and then cooked with lye in a pot two and a half feet in diameter, with a great deal of stirring by hand during the process. If the cooking does not go well, Kokto says that a kind of lime should be added, but that putting in too much ashes gives the finished paper a reddish color.

After the cooking, the pulp was again washed in a basket in running water and allowed to soak in pails for two or three days in order to get rid of the lye. There is also pictured a kind of sweet potato or yam, some of which was added to the pulp in winter months, but in the spring glue was used instead. This was done before beating. The beating was on a low stand about five feet long, three feet wide and three inches thick. The beating stick was square, about three feet in length, with a rounded grip at one end, and beating was very evidently a long, laborious process. A man and woman are pictured seated on opposite sides of the stand and beating with alternate strokes. After beating, the stock was mixed with water in a vat and the ensuing process was essentially the same as in hand-made paper making today. There was a mould, a frame and a screen of bamboo fibres. The pictures show nicely piled stacks of paper coming from the mould, but there is no indication of a press.

Drying Upon Boards

Drying was upon boards about six feet long and perhaps half as wide, of which some forty or fifty were required. A bamboo stick about sixteen inches long was used to hold the wet sheet straight while it was pressed down upon the board with a bamboo brush. The boards containing the paper to be dried were stood up against racks out in the sunshine around the mill. The illustrations indicate that stray gusts of wind which separated the sheets of paper from the drying boards and distributed them over the landscape caused much worry in Kokto's operation.

After drying, several sheets of paper at a time were put between heavy blocks of wood with the edges projecting and then trimmed to the desired size with an instrument similar to one used for cutting mulberry sprouts. Next, the paper was sorted and counted into bundles of twenty sheets each. The bundles were carefully made up into large bales, wrapped in bamboo fibres, securely tied and transported to market on the back of a man, a long, hard journey as the carrier is shown going over rough country with a stick in one hand and a water jug in the other.

Yam Paper the Best

According to Kokto, yam paper was the best and was used for book making, since it lasted the longest. In his opinion, paper made in the spring was no good. The reproduction of Kokto's book also carries a few pages of modern paper, on which are reproduced photographs of the town in which he was born and the tombs erected to his memory. Altogether, the little publication is one of much value and unique interest.

[1] Secretary News Print Service Bureau, New York, N. Y.

Japanese Paper Production Increases

WASHINGTON, D. C., September 12, 1928.—Production by mills of the Japanese Paper Manufacturers Association for the month of May was reported at 55,127 short tons and sales at 55,588 tons, according to a recent report received from the American Commercial Attache at Tokyo. Nearly one-half of the total output (22,127 tons) consisted of news print; other classes of printing paper totaling 13,637 tons. Production during the corresponding month of last year totaled 48,050 tons, of which 20,526 tons represented news print and 12,387 tons other classes of printing paper.

Labor Troubles Appear in Norway

WASHINGTON, D. C., September 5, 1928.—According to a recent report from the American Minister at Oslo, Norway, labor troubles have reappeared in the paper industry. Recently the Employers Association of the Paper Industry demanded a small reduction in wages and the 12,000 employees at the same time insisted upon an increase. The Public Mediator has forbidden the cessation of work during his effort to bring about an agreement. The Mediator may insist upon a continuance of work for a period of ten days, after which, if his efforts fail, a stoppage of work may take place.

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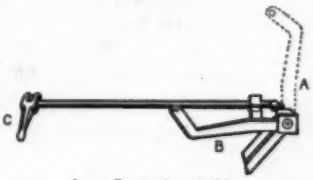

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The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

CROWN—No. 235,253. Crown Willamette Paper Co., San Francisco, Cal. For papers for wrapping and packing merchandise of commerce; bag and envelope papers for manufacturing bags, envelopes and paper containers; fruit paper; tray paper for drying raisins and other fruits, newspaper for printing and publishing.

DITTO HI-SPEED B—No. 259,624. Ditto, Inc., Chicago, Ill. For paper for stationery use for business forms.

FARMTEX—No. 266,769. United Paper Co., East Braintree, Mass. For durable specially treated waterproof paper mulch that achieves the scientific application of heat and moisture and used for cultivating purposes.

VELVO BAND—No. 267,907. Veldown Co., Inc., New York City. For barbers' sanitary paper neckbands.

RUSHMORE—No, 269,195. Megargee Bros., Inc., Scranton, Pa. For toilet paper.

T & Co. (monogram)—No. 267,155. Tiffany & Co., New York City. For writing paper, mailing envelopes, blank books, inkstands, log books, letter openers, desk sets, pencils, desk calendars, etc.

THE HOSTESS—No. 267,351. Charles S. Clark Company, New York. For bridge score pads, place cards, and bridge tallies.

AIRWAY BOND—No. 269,634. Carew Manufacturing Company, South Hadley, Mass. For bond paper.

LEADER—No. 269,651. Fred Rentz Paper Company, Chicago. For greaseproof and waterproof wrapping paper.

RED RAY—No. 269,752. White-Washburne Company, Inc., Hinsdale, N. H. For toilet paper, paper towels, and paper napkins.

SERV-U-WEL—No. 269,814. The Zanesville Paper Company, Zanesville, Ohio. For toilet paper.

HORIZON TINTS—No. 269,710. Bertram Blake Paper Company, Inc., New York City. For book paper.

LUNA—No. 230,670. J. P. Heilbronn Company, Manila, P. I. For bond writing paper, stationery pads, paper clips, and composition books.

GOLD BOND—No. 264,968. Chapin & Gould Paper Company, Springfield, Mass. For bond paper.

MAJOR—No. 269,379. Whiting-Plover Paper Company, Plover, Wis. For writing and printing papers.

SERV-RITE—No. 269,596. The National Bank Supply Company, Milwaukee, Wis. For loose-leaf binders and papers therefor, printing, ruling, binding, and writing papers, file wrappers, and index cards.

Papers at Cellulose Div. Meeting

The following are among the papers presented at the meeting of the Division of Cellulose Chemistry of the American Chemical Society at Swampscott, Mass., at the September meeting.

PULPING FLAX STRAW. VI. PROPERTIES OF FLAX STRAW CELLULOSE AND ITS VALUE IN THE CELLULOSE-USING INDUSTRIES. Earl R. Schafer and Mark W. Bray, Forest Products Laboratory.

This paper deals with some of the properties of flax straw grown for seed purposes and pulps produced therefrom which may be of interest to the cellulose-using industries. The two components of the flax stalk which contain cellulose comprise about 90 per cent of the plant. These components are widely different in their physical structure, the one, consisting of long, strong fibers called bast fiber, the other of very short fibers which when separated from the bast are called shives. The chemical constitution of the two fiber aggregates are as widely different as their physical structure. The bast fiber consists of relatively pure cellulose with which is associated materials easily removed by organic solvents and dilute alkaline solutions. The shives, on the other hand, consist of a relatively smaller quantity of cellulose closely combined with lignin and pentosans in practically the proportions as occur in hardwoods.

The chemical properties of pulps selected as being fairly well purified and containing relatively high percentages of cellulose and representing products of several types of pulping processes are discussed. The pentosan and lignin contents and the copper numbers are in general higher and the alpha cellulose contents lower than for pulps ordinarily used in the nitrocellulose and viscose industries. Further purification would undoubtedly yield pulps which could be used in the production of these products.

CELLULOSE FROM CORNSTALKS. H. A. Webber, Iowa State College.

The total production of cornstalks in the United States each year is estimated at approximately 175,000,000 tons. The average yield per acre of dry stalks in the corn belt states is 2 tons with 1.5 tons available for use as a source of cellulose. The cellulose content of the stalks is approximately 35 per cent. The stalk is composed of three physically distinct parts. The methods of obtaining stalk cellulose are the same as those used for the delignification of woods, but to avoid loss of pith short cooks and beating periods are employed. Average yields of pulp by the various methods are given.

WHAT THE X-RAY TELLS US OF THE STRUCTURE OF CELLULOSE. E. A. Hauser, Massachusetts Institute of Technology.

The x-ray is discussed as an important tool for the study of the structure of cellulose and its derivatives. New ideas are brought forward for the interpretation of x-ray results, and the limitations of present x-ray analyses are pointed out. A structural formula is derived for cellulose, and a model constructed. Important chemical and physical properties of cellulose are discussed on the basis of this model. The importance is emphasized of x-ray analyses in future work on cellulose and its derivatives.

Paper Shipments on Champlain Canal

Total shipments of paper products on the Champlain Barge Canal for the season up to date, has shown a slight falling off as compared with the same period of last season, according to announcement by officials of the state waterways. However, it is expected that this slight loss will be more than offset by the figures for the last three months of the season. The navigation season extends usually to around December 1 and late season shipments of paper and paper products are always heavier, especially from the Canadian mills.

Because of the fact that the International Paper Company, Fort Edward, the Union Bag and Paper Corporation, Hudson Falls, Finch, Pruyn & Co., Glens Falls, and other firms in the Upper Hudson Valley were using the canal more extensively this season than formerly it was generally predicted that the tonnage of paper products carried on the canal during 1928 would set a new high record. This is still possible but is said to depend largely upon the shipments coming from the Canadian mills during the remainder of the season.

It is estimated that shipments of paper and paper products carried this season on the Champlain Canal between Fort Edward and New York and intermediate points have practically doubled. With the Fort Edward plant of the International Paper Company running on full time the I. P. Co. barges operating between Fort Edward and New York have been kept busy all season bringing raw materials on the trip north and carrying finished paper on the return trip to New York City. The Union Bag and Paper Corporation, of Hudson Falls, has been dependent almost entirely on canal shipments of wood pulp since the closing of the sulphite mill and a fleet of motor trucks has been kept busy a good portion of the summer carrying the pulp from the barges at the Fort Edward terminal to Hudson Falls. Finch, Pruyn & Co., of Glens Falls, has also been making unusually large shipments of news print over the canal this season loading the paper at the Fort Edward terminal.

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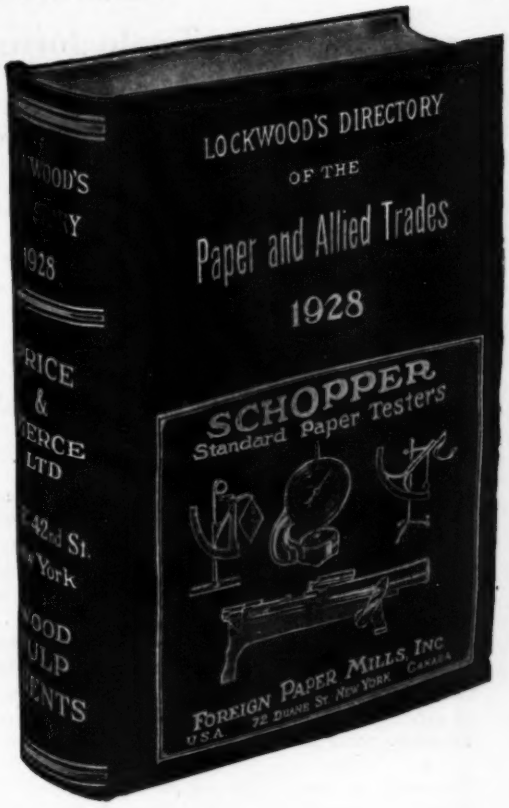

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New York Trade Jottings

D. C. Everest, of the Marathon Paper Mills Company, Rothschild, Wis., was a New York visitor early this week.

* * *

Albert H. Pearson, of the United States Forest Service, Washington, D. C., was in town last Monday looking up some of his friends in the paper industry.

* * *

Oliver M. Porter, secretary-treasurer of the American Paper and Pulp Association, has returned to duty after an enjoyable two weeks' vacation.

* * *

The New York Division of the Salesmen's Association of the Paper Industry resumed its weekly luncheons and meetings at the Canadian Club, Belmont Hotel, last Monday, when plans for the forthcoming season were discussed by those present.

* * *

Ernest B. Kellogg (son of R. S. Kellogg, secretary of the News Print Service Bureau) and his wife, have moved here from Chicago. Mr. Kellogg is on the staff of the Trade Extension Department of the National Lumber Manufacturers Association, with offices in the Graybar Building, New York.

* * *

The Jones Manufacturing Company, of Chicago, Ill., have arranged with L. Hyman & Sons, of 35 West Houston street, New York, to represent them, to warehouse their entire line of safety twine, rope, and carton cutters, and to supply the wholesale trade at their regular wholesale prices.

* * *

In order to have larger and more convenient office facilities, George C. Kennedy has moved from 85 Water street to Room 1126, Park Row Building. Telephone Barclay 9851. Mr. Kennedy represents the Erving Paper Mills, the Paper Products Manufacturing Company, and the E. J. Woodhead Company.

* * *

T. Capo & Co., paper stock packers have started construction on their new building at 122nd street and Pleasant avenue, New York. The new plant will have unloading and loading platforms and will be equipped with modern baling presses and other up-to-date equipment. Their present location is at 337 East 17th street.

* * *

Stockholders of the Johns-Manville Corporation, New York, have approved an increase in the authorized common shares from 750,000 to 1,000,000. It is understood that the proceeds from the sale of new stock will be used to acquire other businesses, extending the present organization and provide a distribution fund for employees. Part of the additional stock, it is reported, will be offered to shareholders at about $100 a share.

George W. Mead Runs Well

APPLETON, Wis., September 10, 1928.—Although he did not win the nomination he sought as United States senator, George W. Mead, president of the Consolidated Water Power and Paper Company, of Wisconsin Rapids, Wis., showed in the Wisconsin primary election last week that he has potential political promise. He entered the race four weeks before the primary, campaigned alone as a Republican without using the party organization, and polled a total of 160,000 votes.

Mr. Mead sought to defeat Senator Robert M. LaFollette for re-election. He tackled the man who is conceded to be the most difficult to defeat in Wisconsin, and polled about 70,000 votes more than any other opponent had done, with a long, carefully planned campaign and with the support of party machinery. Senator LaFollette received more than 300,000 votes.

Brotherhood Organization Work

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., September 4, 1928.—Headquarters of the International Brotherhood of Papermakers in this city reports steady progress in its organization work. A new local union organized in Oswego through the efforts of Frank P. Barry, vice president of the Brotherhood, has just received its charter. Another local union has been organized at Bromptonville, Quebec, by Frank McLeod, who is in charge of Brotherhood headquarters in Canada at Three Rivers. Mr. McLeod, who has been in charge of the Brotherhood's organization work among Canadian papermakers a comparatively short time, has been instrumental in forming three new locals since June 4.

William R. Smith, president of the Brotherhood, was in Montreal early in the week for a conference with L. R. Wilson, of the Abitibi Power and Paper Company, in an effort to straighten out various matters affecting the company and the union that have been hanging fire for several weeks.

Matthew J. Burns, former secretary of the Brotherhood and unsuccessful candidate for president at the last union election, is continuing his work in the union interests. Mr. Burns has been sent by President Smith to the Niagara Falls district for special work.

It was announced at the headquarters of the Brotherhood here this week that William R. Smith, president of the organization, and Frank P. Barry, vice president, have been appointed to the labor advisory committee working under the Democratic National Committee.

Leaves Tait Paper & Color Industries

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., September 4, 1928—The annual meeting of the Tait Paper and Color Industries held at the offices of the company in this city brought a surprise to many in the paper industry when it was learned that George Tait had left the presidency of the company and had retired also from the board of directors. Mr. Tait was the organizer of the Tait Paper and Color Industries when the corporation was formed through a merger of some of the leading wall paper mills and paper manufacturing plants in New York and New Jersey. He has directed the business policies of the firm since its organization. Mr. Tait's plans for the future have not been announced.

The first step in the reorganization of the corporation was taken at the stockholders' meeting when Louis M. Brown was named a director to fill the vacancy in the board caused by the retirement of Mr. Tait. Other directors named were Arthur F. Brown, Louis P. Brown, Daniel H. Cowles, Albert L. Emerson, S. Carter Hall, Archibald C. Hart, Tynan S. Marshall, Karl L. McBride, Robert H. Rhinelander, William Rohe, William F. Seber, Henry R. Waite, James K. Welch and Martin C. Wilmarth.

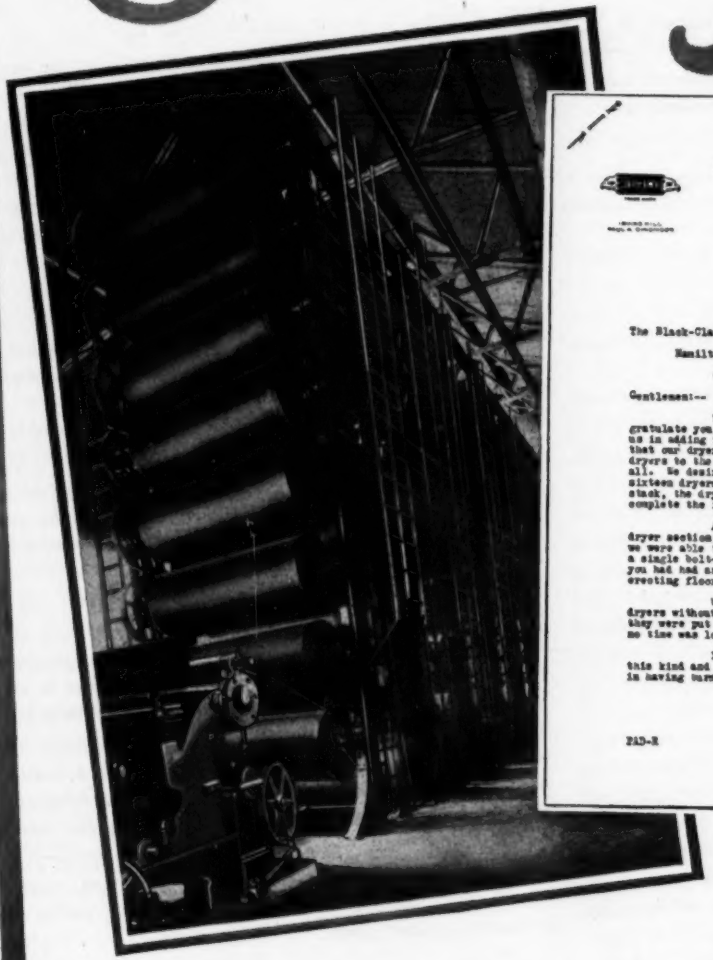
The board of directors later met and elected Louis M. Brown president of the corporation to succeed Mr. Tait. Other officers elected were Karl L. McBride, vice president and general manager; Tynan S. Marshall, vice president in charge of wall paper sales; Martin C. Wilmarth, secretary, and James H. Pearsall, treasurer.

Stony Brook Paper Incorporates

WALTHAM, Mass., September 4, 1928.—A certificate of incorporation has been issued to the Stony Brook Paper Company of this city, with a capital stock of 500 shares, of no par value. The incorporators are Horace Z. Landon of the Industrial Tube Company, Joseph Bartlett of Newton and Marion Haines of Cambridge.

The new company will engage in the manufacture of writing and wrapping and other types of paper, the business being located in the old papermaking establishment at Roberts.

8 HIGH



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Although you had furnished the original dryer section years ago, we are happy to advise that we were able to make this installation without changing a single bolt-hole, everything going in as well as though you had had an opportunity to erect the stuff on your erecting floor.

We might also add that we added these dryers without shutting down the machine. That is, they were put in during two week-end shut-downs, so that no time was lost in making the installation.

It is most satisfying to get a job of this kind and we feel that you should feel gratified in having turned it out.

Respectfully,

LAWRENCE PAPER MFG.CO.

PAD-H By: Paul A. Lawrence

The letter and the picture tell the story

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Vol. LXXXVII New York, Sept. 13 No. 11

USE OF THE ROD MILL

From one small experimental rod mill in 1924 to thirty-seven in 1928—this represents the paper industry's acceptance of the rod mill as a processing and refining agent, according to C. C. Heritage, chief of the U. S. Forest Products Laboratory's pulp and paper section.

In 1926, following more than two years of experimental work, the Forest Products Laboratory announced its successful use of the rod mill—a machine used by the metallurgical trades for breaking up ores—as a part of the semi-chemical pulping process and as a means of refining pulps, shives, knots, and screenings. The rod mill is a cylinder which rotates horizontally. When in operation it is partly filled with loose, metallic rods two inches or more in diameter and somewhat shorter than its inside length. The Laboratory had found that it could be used to reduce chips softened by mild chemical treatment and to obtain hydration with less reduction of fiber length through cutting and with less power consumption than is usually associated with beater hydration.

Although the rod mill had been the object of some speculation by paper makers, none had been used in the paper industry, so far as available records show, and the Laboratory's experimental mill together with a few commercial mills which were being operated to check the Laboratory's results, were the only rod mills in use for pulping at the time the announcement was made.

Prompted by recent reports of new installations of rod mills from the rod mill manufacturers, Mr. Heritage has made a preliminary survey of such equipment in use in pulp mills on July 1 of this year.

The returns thus far indicate that six companies are operating ten mills—ranging from 4 feet by 8 feet nominal inside dimensions to 7 feet by 16 feet—on kraft pulps alone. Four companies report 5 rod mills running on sulphite pulp or screenings. Five companies engaged in the production of semi-chemical pulps are found to be operating thirteen mills and one firm which produces straw and chip boards is using there.

It is interesting to note that five small rod mills are being operated strictly for experimental purposes by commercial firms and laboratories in addition to the original one at the Forest Products Laboratory at Madison, Wis.

THE UNIVERSITY AND INDUSTRY

Col. R. E. Smythe, executive secretary of the Technical Service Council, which body is a connecting link between university and industry in Canada, made some interesting observations on an important feature of the pulp and paper industry, at a meeting of the Council in Toronto a few days ago.

The tendency for the graduate in the industry to leave a company after they have given him extensive training was one of the problems to be solved, the young graduate in many cases not being satisfied to work for a reasonable period of time with practical workmen in the mills. "It appears that this training is necessary in preparing a young man for better positions," said Colonel Smythe, "and it is necessary for them to work on the machines in order to know the many ways in which the grade of paper being manufactured may be made.

"Some criticism has been made concerning training; that at times the graduate lost out in the estimation of his juniors because of the lack of practical application of mechanics. The shop work now demanded in mechanical and electrical engineering in the universities may counteract this deficiency.

"In chemical engineering, mechanical shop work is not demanded by the colleges, and it appears that chemical engineers are used in fairly broad positions in paper mills, their chemical knowledge only being in demand at intervals or for part of their time. This is particularly true in small plants.

"A better knowledge of curricula by the manufacturer might aid this problem, and it could be avoided by employing a mechanical engineer who has studied sufficient chemistry to handle the lesser chemical duties. Many of the employers in the pulp and paper industry hold different ideas as to the uses of technical men.

"At least one company maintains the idea that the technical man belongs only to the technical work of the plant and not to the direct line in management of the plant. This view is interesting and perhaps works out well, but may or may not be in the best interests of the industry. Certainly the tendency in many of the larger companies in the United States in other fields is in the opposite direction. It was the finding of one company that the employing of young men in the vacations of their college course was most valuable, and that the engineers, when graduated, came into their plant and remained there. These young men were tried out during their early years, and also had the groundwork of the plant behind them when graduating. This having occurred in several cases seems to open an opportunity for placing undergraduates in paper plants."

Survey on China Clay

Domestic field work has been completed by experts of the Tariff Commission at Washington on the survey being made on kaolin or china clay. The field work was done in Southern states.

This report is being compiled under section 318 of the Tariff Act and is in the nature of an economic investigation for the use of the Commission itself and is not being made as the result of any application for a change in tariff.

The selling price of the foreign product has been gotten together through import invoices. No hearings will be held in connection with this report and it is expected that it will be some time yet before the report can be compiled.

Files Answer in St. Regis Rate Case

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., September 10, 1928.—Joseph A. Quinlan, traffic manager of the St. Regis Paper Company, and attorneys for the company, Clark and La Roe of Washington, D. C., have prepared an answer to the request of the Atchison, Topeka & Santa Fe Railway Company, et al., that case 19,694 of the Interstate Commerce Commission be combined in the general news print freight rate investigation. The answer has just been filed by Mr. Quinlan and Mr. La Roe with the commission.

The St. Regis Paper Company, as chief complainant in the case which was filed some time ago, objects to combining this case with the general investigation for several reasons. The answer shows that the case was combined with that of the Harrisville Paper Company vs. the Atchison, Topeka & Santa Fe Railway Company, et al., which has nothing whatever to do with the general news print investigation. As soon as announcement of the general investigation was made the defendants filed papers asking that the St. Regis case be combined with the others in the investigation.

In the St. Regis Company's reply just made it is stated that "the said petition for consolidation is nothing more or less than a strategical move, the principal purpose of which is to bolster up the tottering position of defendants in the cases referred to and the fact can not be submerged under any suggestion that the commission is offered an opportunity to shorten hearings and curtail expenses in the general investigation."

It further states that "the excessive rates complained of ought not to be imposed upon these complainants and interveners and the commission ought to look with disfavor on a petition that would if granted deter for an indefinite time the relief to which complainants are entitled. The practical aspect and legal and equitable considerations alike militate against the petition and demand its prompt denial."

In conclusion it says: "The consolidation sought by petitioners would if granted result in unwarranted and unjust delay in according the relief in which numerous complainants and interveners in No. 19,694, et al., are entitled, the said proceedings having progressed to a point where a proposed report should be promptly made. The petition should be denied."

It will probably be several weeks before the commission decides whether or not the petitions of the railroads should be granted.

Carlisle Interests to Build Chemical Plant

[FROM OUR REGULAR CORRESPONDENT]

OSWEGO, N. Y., September 10, 1928.—Plans for the construction of a new hydro-electric chemical plant in this city by the Carlisle interests were announced by Floyd L. Carlisle at a dinner here Thursday in the Hotel Pontiac given in his honor by the Chamber of Commerce. The new plant will manufacture chemicals used in bleaching paper and for other industrial purposes. Mr. Carlisle stated that the plans for the new plant are now being developed.

This is the fifth industrial enterprise launched by the Carlisle organization in this city during the past three years, approximately $10,000,000 having been expended. These projects are the Taggart Oswego Bag and Paper Company, finished less than a year ago and already undergoing enlargement; the Oswego Board Corporation; the Oswego Rayon Company and a large hydro-electric power plant now furnishing power to the city and its industries.

While details of the new chemical plant were not discussed by Mr. Carlisle or members of his organization it is understood that present plans call for the starting of work in the near future. The location of the plant has not been definitely determined but it is expected that it will be located in the vicinity of the Taggart-Oswego and the Oswego Board plants. The Carlisle interests own considerable land in that section.

In announcing plans for the new chemical plant Mr. Carlisle predicted that Oswego will eventually become "a second Buffalo." He said his organization has made a survey of all industries that have been established in Buffalo of late to determine their nature and the reasons for being located in that center. Shipping facilities and availability of industrial energy are found to be the outstanding factors. These same facilities, he said, are or will soon be available here. In discussing the hydro-electric chemical business he declared that it was an important industry and is a large user of electric power.

The chemicals which it is proposed to manufacture in the new plant are largely used in paper manufacturing for bleaching and water purification.

Rushing Work on A. P. W. Co. Plant

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., September 10, 1928.—The desire of officials of the A. P. W. Paper Company to have the new paper manufacturing unit in operation by the first of the year is causing contractors to rush the work on the company's $1,200,000 expansion program at North Albany. Work on the new brick and steel mill has progressed to a point where those in charge believe there will be no difficulty in finishing the contract within the schedule.

The principal addition which is to house a new paper machine is already assuming shape and is well on the road to completion. The plan is to complete this building first so that the work of assembling and installing the new paper machine may be started as soon as possible. The installation of this machine is expected to take several weeks and while this work is under way construction will go forward on the auxiliary buildings. At the present rate of progress the entire program should be finished before the end of the year.

With the starting of the new paper machine the company will become a greater factor in the tissue trade. It is planned to run the new machine on a lower grade of tissue than is now produced by the firm. The present high grade product will be continued, the lower grades of tissue being destined for a trade not hitherto served by the company.

Mark H. Lund to be Commercial Attache

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 10, 1928.—Mark H. Lund, sales manager of the Crystal Tissue Paper Company for the past eight years, has been appointed commercial attache from the United States to Norway, with headquarters at Oslo, Norway.

In addition to the position as commercial attache, Mr. Lund also will be the official representative of the American paper industry in Europe, under the auspices of the Bureau of Foreign and Domestic Commerce.

Friends of Mr. Lund in the Miami Valley are gratified over the recognition that has been accorded to him as either position is one of responsibility and his selection from the great number of able men in the paper trade is regarded here as showing the confidence held by the trade in general in the appointee's ability.

In his new capacity, it will be Mr. Lund's duty to keep American paper manufacturers in touch with developments of interest to the trade in this country, and to foster friendly relations between the industry in America and Europe.

For many years Mr. Lund was salesmanager for the Amanda paper concern and as a director of the Crystal Tissue Company and the Crystal Waxing Company has gradually worked himself up a long and hard grade which finally has brought him to the top rounds.

Richardson Paper Co. Makes Improvements

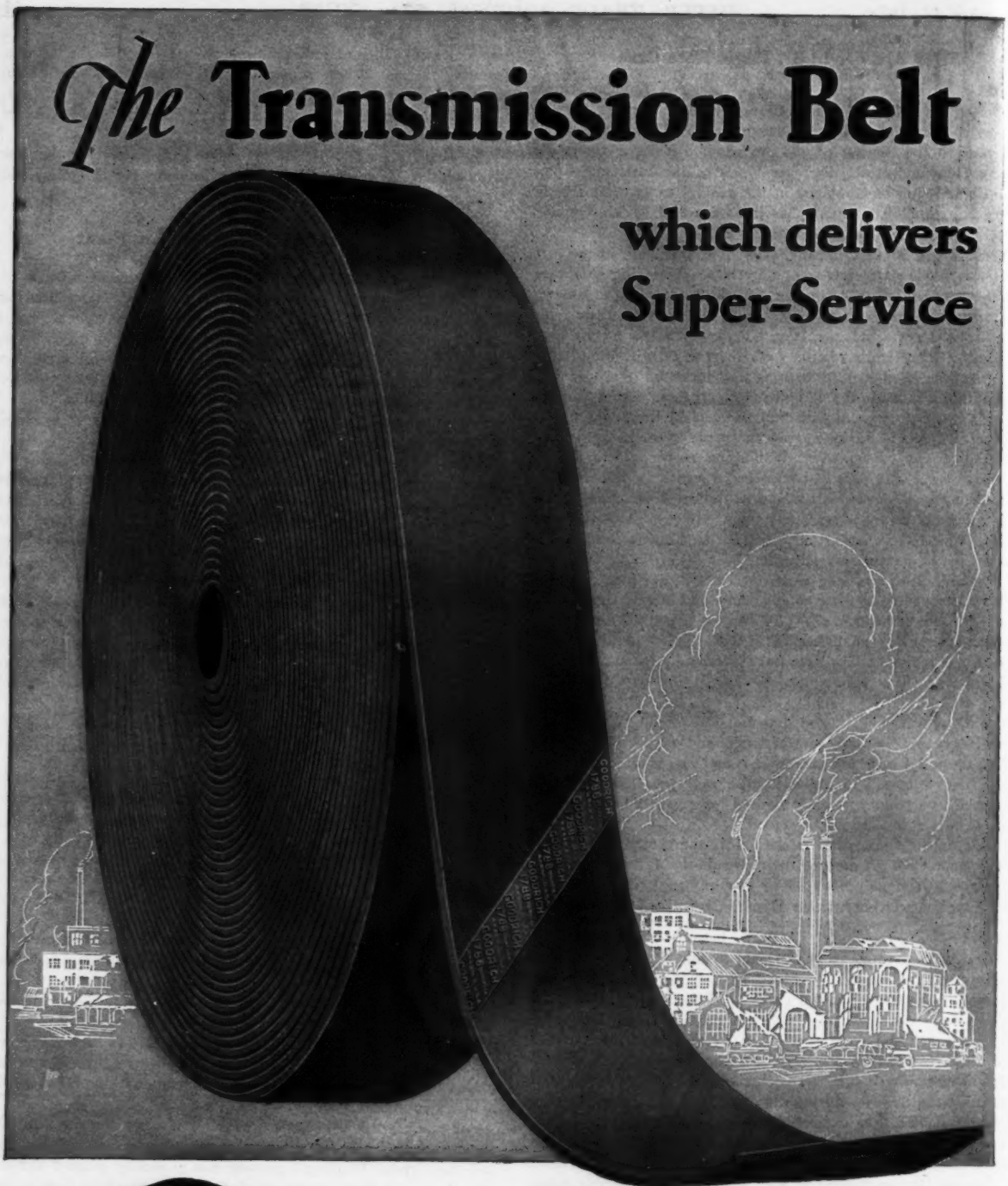
[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 10, 1928.—Substantial improvements have been made in the mill of the Richardson Paper Company at Lockland. The Black-Clawson Company of Hamilton rebuilt an old machine by adding an entirely new wet end and using old dryers.

The Richardson Paper Company reports a fairly good business and feels that the improvements it has installed in the way of increasing its output are fully justified by trade conditions. Other Lockland mills also are reported to be in good shape.

The Transmission Belt

which delivers Super-Service



Goodrich

"1788 Highflex" Belt

THE B. F. GOODRICH RUBBER COMPANY

Established 1870

Akron, Ohio

Section of the
Technical Association of the Pulp and Paper Industry

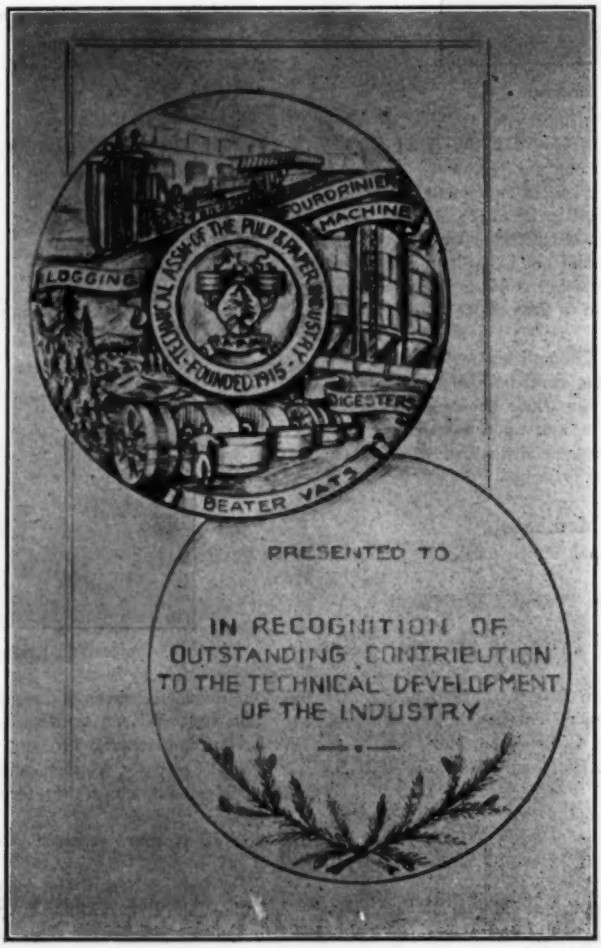
AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

TAPPI Medal to Mason and Minton

Whereas the constitution of TAPPI provides for honorable mention "to those whose achievements have definitely contributed to the progress of the industry," yet the first awards to be made on this basis will be those granted to W. H. Mason and Ogden Minton at the Fall Meeting in Wausau. Both of these men have accepted an invitation to attend the meeting and to receive the TAPPI Medal at the dinner on Past Presidents' Night, Wednesday, September 26.

The medal itself is of appropriate design carefully worked out in solid gold as illustrated in the accompanying photograph.



William H. Mason

William H. Mason was born in West Virginia and received his education at Washington and Lee University, later studying mechanical engineering at Cornell University. During the Spanish-American War he served as an ensign in the Navy and then went with Thomas A. Edison for the ensuing sixteen years.

At the outbreak of the World War he accepted the position of General Superintendent of Construction for the government ship yards at Bristol, Pennsylvania, where in eleven months he built up an organization of eight thousand men and completed twelve ship ways as well as a large town site. After the War he did some development work for General Motors on a hydraulic transmission.

In 1920 Mr. Mason went to Laurel, Mississippi, where he developed a process for extracting naval stores from lumber during the course of manufacture. Four of these plants were built and are now in successful operation.

Mr. Mason then turned his attention to the possibility of exploding wood fiber with high pressure steam and, after a prolonged series of experiments, worked out the methods which now form the basis of operations in the Masonite Corporation's plant. The value of such a process for converting wood refuse into high-grade substitutes and supplements for lumber cannot be overestimated in these days when the necessity for full utilization of our forests is being appreciated. As an engineering contribution, Mr. Mason's pioneer work in this new method of defibering stands out in the pulp and paper industry.

Ogden Minton

Ogden Minton's career and achievements also exemplify the fact that outstanding developments are generally the combination of a thoroughly trained mind, a practical understanding of the goal to be reached, unlimited confidence in ultimate success and a tremendous amount of hard work. Mr. Minton was born in Brooklyn in 1885 and was educated in the Brooklyn Polytechnic Preparatory School and like Mr. Mason, was later graduated from Cornell University.

After a number of years' experience in engineering and financial matters, Mr. Minton went into the Engineering Department of the American Writing Paper Company at Holyoke, Massachusetts. He then served as a Captain of Ordnance during the World War, after which he spent a

year recuperating from a severe attack of influenza.

It was then that Mr. Minton decided to turn his full efforts to developing the Vacuum Dryer, an idea first conceived in 1914 and patented in 1915. He gathered around him a small staff of technical men who subsequently devoted almost five years to thermo-dynamic and engineering studies in order to design and build full size dryers. The first ones were installed for the Armstrong Cork Company, the Bakelite Corporation and Price Bros. & Co., Ltd. Just now two 234" dryers are under construction for Price Bros. & Co., Ltd. These are to operate at 1200 ft. per

WILLIAM H. MASON

minute, but the 100 feet Vacuum Dryers for the Scott Paper Company will reach a speed of 1500 feet per minute.

In commenting on the development of his equipment Mr. Minton points out the obstacles which had to be overcome, including a revision of the accepted thermo-dynamics for paper drying; the impression that a vacuum chamber could not be built to withstand atmospheric pressure; that such a chamber could not be made air tight, and that it would be impossible to pass paper through such a dryer, even if it could be built.

And so, in studying the lives and accomplishments of these two men who have made such outstanding contributions to the paper industry, one is struck by the fact that their developments have resulted from an entirely different attack on the problems and from a perseverance through discouragements which would have caused the average person to give up in despair.

New TAPPI Members

Donald Adcook, chemist, International Paper Company, Niagara Falls, N. Y.

Albert Allen, vice president, Atlantic Precision Instrument Company, Boston, Mass.

H. J. Berger, editor, PAPER TRADE JOURNAL, 10 East 39th street, New York City.

C. A. Blodgett, chief chemist, Eastern Mfg. Co., Bangor, Me.

A. H. Borchardt, assistant manager, centrifugal department, Worthington Pump & Machinery Corporation, Harrison, N. J.

Arthur Bowden, color chemist, Henry Bosch Company, 4700 S. Kedzie Avenue, Chicago.

T. C. Bowen, papermaker and assistant general superintendent, Strathmore Paper Company, Woronoco, Mass.

Alonzo B. Bradley, factory manager, Fibre Conduit Company, Orangeburg, N. Y.

Granville C. Chase, student, University of Maine, Baring, Me.

Howard L. Cheney, manager, Cheney Pulp and Paper Company, Franklin, Ohio.

Edward Cooper, superintendent, Western Quebec Paper Mills, St. Andrews E., P. Q.

John C. deMille, chemist, Warren Manufacturing Company, Milford, N. J.

Arthur C. Dreshfield, chief chemist, Paper Makers Chemical Corporation, Kalamazoo, Mich.

L. E. Fitzgerald, chemical sales engineer, Papermakers Chemical Corp., Carthage, N. Y.

Norman H. Foley, chemist, Marathon Paper Mills Company, Rothschild, Wis.

William A. Gocke, sales engineer, Shartle Brothers Machine Company, Middletown, Ohio.

W. H. Graebner, chemist, Marathon Paper Mills Company, Rothschild, Wis.

Samuel S. Gutkin, 1603 Wood avenue, Linden, N. J.

Lois V. Hans, chemist, Container Corporation of America, 111 W. Washington avenue, Chicago.

E. Ralph Hayes, shift superintendent, Canadian Cellulose Company, Cornwall, Ont.

R. V. Holland, electrical engineer, Canadian International Paper Company, Three Rivers, P. Q.

Guy C. Howard, chemical engineer, Marathon Paper Mills Company, Marathon, Wis.

M. S. Kantrowitz, assistant chemist, U. S. Government Printing Office, Washington, D. C.

Roy H. Kelly, paper mill superintendent, Marathon Paper Mills Company, Rothschild, Wis.

W. K. Kidder, Chief Chemist, Allied Paper Mills, Kalamazoo, Mich.

H. D. Martindale, general manager, Shartle Bros. Machine Company, Middletown, O.

H. J. McCann, sulphite superintendent, Dells Paper Company, Eau Claire, Wis.

F. Stuart McGee, chemist, Defiance Paper Company, Niagara Falls, N. Y.

OGDEN MINTON

S. W. Mead, treasurer, Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis.

W. L. Mead, personnel director, Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis.

Carlos Moriondi, consulting technical adviser, Via Pergolesi 19, Milan, Italy.

Newton L. Nourse, research chemist, Brown Company, Berlin, N. H.

W. E. Nuttall, chairman and managing director, Cooke & Nuttall Ltd., Vale Paper Mills, Horwich, Lancashire, England.

Erich Opfermann, chemical engineer, Hindersinstr, 8 Berlin, N. W. 40 Germany.

C. W. Richards, chemical engineer, Continental Paper and Bag Corporation, Rumford, Me.

A. W. Schorger, director of chemical research, C. F. Burgess Laboratories Inc., 1011 E. Washington avenue, Madison, Wis.

L. E. Scholander, chemist, Paper Laboratories Inc., 1700 Prairie avenue, Chicago, Ill.

G. A. Scutt, chemical sales engineer, 216 Charles avenue, Solvay, N. Y.

George Simcoe, ceramic engineer, Edgar Brothers Company, Metuchen, N. J.

F. L. Simons, technical advisor, Rogers Fibre Company, Kennebunk, Me.

Judson P. Smith, chemical engineer, Marathon Paper Mills Company, Rothschild, Wis.

J. T. Sobota, chemist, Fort Howard Paper Company, Green Bay, Wis.

Hugh M. Sutton, plant engineer and purchasing agent, Harmon Paper Company, Brownville, N. Y.

A. A. Tanyane, general advertising manager, PAPER TRADE JOURNAL, 10 E. 39th street, New York City.

Aubrey T. Taylor, chief chemist, Bedford Pulp & Paper Company, Richmond, Va.

John A. Tershin, assistant superintendent, Hawley Pulp and Paper Company, Oregon City, Ore.

Ralph E. Toucey, engineer, Frane & Company, Dalton, Mass.

R. M. True, chemist, Crocker-McElwain Company, Holyoke, Mass.

L. B. Tucker, student, N. Y. College of Forestry, Syracuse, N. Y.

L. R. Verdon, president, Paper Mills Supply Co., 2006 Race street, Kalamazoo, Mich.

Gerald Wendt, dean, school of chemistry and physics, Pennsylvania State College, State College, Pa.

Johannes Westergaard, sales manager, Atterburg & McKelvey, 11 Broadway, New York.

B. T. Winiecki, chemist, Rainier Pulp and Paper Company, Shelton, Wash.

K. A. Wrede, chief chemist, A. B. Kaukas Fabrik, Willmanstrand, Finland.

Valley Laboratory Equipment

The Valley Iron Works Company of Appleton, Wis., is mailing out copies of its new 16-page booklet "Valley Laboratory Equipment," which has just come off the press. The booklet has a three color cover, the illustrations of the equipment on the cover being printed in the natural colors of the equipment itself.

In addition to describing the new improved Valley laboratory equipment, the booklet contains several interesting charts showing the results of tests in eleven mills with experimental beaters and sheet making equipment. Large illustrations show the equipment, and a number of graphs further explain the functioning of this equipment.

A copy of this new booklet will be mailed upon request to the Valley Iron Works Company, Appleton, Wis., their sales department advises.

Determination of Gloss of Paper

Proposed TAPPI Official Method

I. Apparatus

The testing instrument shall consist of (1) a photometer so fixed in relation to the test specimen at an angle of 57½ degrees that the amount of polarized light reflected from the test specimen relative to the total amount reflected from the test specimen at an angle of 57½ degrees may be measured; (2) a source of diffused illumination consisting of a frosted B lamp, G 18½ bulb, 110 volts, 25 watts, so fixed in relation to the test specimen that the light subtends an angle of 11¼ degrees and falls on the test specimen at an angle of 57½ degrees; (3) an opal glass diffusing screen between the source of light and the specimen aperture; (4) a metal box having the photometer housed in one end, the source of illumination housed in the other end, and an aperture in one side over which the specimen is clamped in a fixed position. The box shall be so made as to exclude all outside light and shall leave all of its interior surfaces blackened.

II. Test Specimens

The specimens for test shall consist of not less than five pieces of paper cut from different portions of the test sample, secured by the official sampling method so as to be representative of it. These shall be of sufficient size to extend beyond all sides of the aperture of the metal box. The test specimens shall be clean, free from wrinkles and folds, shall not be exposed for any considerable length of time to extreme atmospheric conditions, and the parts of them actually tested shall not have been touched with the fingers.

III. Procedure

The test specimen shall be firmly clamped in position so that its sides extend beyond all sides of the aperture of the metal box. If the paper is translucent, a sufficient number of test specimens shall be stacked one upon another so that no incident light can penetrate entirely through them. Two tests shall be made on each side of not less than five specimens, one test in the machine direction of the paper and one in the cross direction. The test results shall be recorded in degrees to the nearest 1/5 degree. The average degrees of gloss shall be computed and converted to per cent gloss by the formula:

$$\text{Per cent gloss} = \cos 2(60° - \text{degrees gloss}) \times 100$$

Duplicate determinations shall agree within 0.5 per cent gloss.

IV. Report

The results shall be reported in per cent gloss to the nearest 1/10 per cent. The average, maximum and minimum gloss shall be reported. Where required, in order to show the difference in finish between the two sides of the paper, the gloss of each side shall be reported separately.

V. Additional Information

This method is suitable only for comparison of papers having similar color. Papers of different colors may be compared by using colored filter glasses.

Following are references to additional information.

"The Glarimeter—An Instrument for Measuring the Gloss of Paper," by R. L. Ingersoll. Journal Optical Society of America, May, 1921.

"An Improved Form of Glarimeter," by R. L. Ingersoll. Paper 27, No. 23, 18 (Feb. 9, 1921).

"A Means to Measure the Glaze of Paper," by R. L. Ingersoll. Electrical World 63, 645 (March 21, 1914); Pulp and Paper Magazine of Canada 12, 233 (Apr. 15, 1924).

"Determination of Glare," by R. L. Ingersoll. Electrical World 64, 35.

"An Improved Form of Pickering Polarimeter for Gloss Measurements (by the Polarization Method)." A paper presented before the Fifth Meeting (Dec. 27-29, 1920) of the Optical Society of America (at the University of Chicago), by R. L. Ingersoll.

"The Ingersoll Glarimeter." Bulletin No. 100, Central Scientific Company, Chicago, Ill.

For a description of the Pickering Polarimeter, see Proceedings American Academy Arts and Sciences, 9, 1 (1873); also 21, 294 (1885).

"The Glarimeter and the Measurement of the Finish of Paper," by R. E. Lofton. PAPER TRADE JOURNAL 80, No. 7, 47-49 (Feb. 12, 1925).

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Power

Green's Cinder Trap. Anon. Paper Trade J. 85, No. 20, (Nov. 17, 1927). Brief description of the Green cinder trap, its operation and performance.—A. P.-C.

Steam Taps and Steam Purifiers Yield Handsome Returns. Reginald Trautschold. Paper Trade J. 85, No. 23, 46-52 (Dec. 8, 1927). A discussion of their advantages.—A. P.-C.

Long Distance Transmission of Steam. C. W. Conrad Paper Mill 50, No. 45, 10, 38 (Nov. 5, 1927). An account of the successful delivery of steam through a 4,550 ft. main at the plant of Bird & Son, East Walpole, Mass.—A. P.-C.

Power and Its Relation To Costs. Walter E. Cooy. Paper Mill 50, No. 49, 10, 38 (Dec. 3. 1927). A discussion of the various factors which must be watched and controlled in order to keep down steam power costs.—A. P.-C.

Rational Boiler Plant Design for Low Cost Steam. F. A. Combe. Pulp and Paper 25, 1577-1581 (Dec. 8, 1927). A discussion of the necessity of balancing installation for high efficiency and low operating cost against fixed charges so as to secure the lowest total cost of steam.—A. P.-C.

Ways of Handling Ashes Economically. Reginald Trautschold. Paper Trade J. 85, No. 15, 36-42 (Oct. 13, 1927). A description of the mechanical system, in which ash cars, lorries or some variety of collecting conveyor are used in connection with a skip-hoist rig; the steam-jet system; and the sluicing method, bringing out the merits of each.—A. P.-C.

Steam and Power Developments in the Paper Industry. George D. Bearce. Paper Ind. 9, 1301-1304 (Oct., 1927). Brief description of some modern developments in steam generating equipment.—A. P.-C.

New High-Pressure Power Plant of the Chesapeake Corporation. Anon. Paper Ind. 9, 1323-1331 (Oct. 1927). A description of the reconstructed plant of the savings effected thereby.—A. P.-C.

Fitchburg Paper Co. Boiler Plant. Samuel M. Green. Paper Ind. 9, 1331-1335 (Oct., 1927). A detailed description of the new plant.—A. P.-C.

New Steam Boiler Installation at River Raisin Plant. Anon. Paper Ind. 9, 1335-1338 (Oct., 1927); Paper Trade J. 85, No. 17, 69-70 (Oct. 27, 1927). A description of the new plant and of the savings effected thereby.—A. P.-C.

Suitable Tachometers Yield Double Dividends. Reginald Trautschold. Paper Trade J. 85, No. 21, 30-36 (Nov. 24, 1927). A discussion of the value of the use of tachometers in paper mills.—A. P.-C.

Application of Meters in Paper Mills. H. E. Weaver, Paper Ind. 9, 1339-1341 (Oct., 1927). Brief discussion of the advantages of using steam flow meters in various parts of the paper mill, tachometers on paper machines, and gravity recorders and weir meters in black liquor recovery plants.—A. P.-C.

Sensitive Boiler Feed Water Regulation Yields Handsome Dividends. Reginald Trautschold. Paper Trade J. 86, No. 6, 40-48 (Feb. 9, 1928). A brief description of the various types of feed water regulators and of their merits.—A. P.-C.

Hydraulic Turbines Stimulate Pulp and Paper Mill Electrification. Reginald Trautschold. Paper Trade J. 85, No. 25, 30-36 (Dec. 22, 1927). A discussion of the importance of hydraulic turbines to the paper industry in exerting pressure toward and stimulating pulp and paper mill electrification.—A. P.-C.

Why It Pays To Clean Steam. J. Lucien Jones. Paper Ind. 9, 1341-1344 (Oct., 1927). A brief discussion of the damage done by entrained water in steam and of the savings effected by eliminating water and "dust" from the steam.—A. P.-C.

The Power Factor Problem. R. Brett Perring. Pulp and Paper 25, 1541-1542 (Dec. 1); 1596-1598 (Dec. 8, 1927). An article placing before the power consumer a non-technical, but intelligent, definition of power-factor, pointing out that through neglecting to give this really vital item in his daily routine the remotest thought or care an unnecessary and by no means small financial loss is being daily debited in his accounts, and indicating how such losses can be avoided with a resulting all-round increased plant efficiency.—A. P.-C.

New Clifton Paper Mill. Anon. Paper Mill 50, No. 47, 4, 6, 18 (Nov. 19, 1927). A description of the recently completed 100-ton mill of the Clifton Paper Mills, situated on the Passaic River, Clifton, N. J.—A. P.-C.

Mills

Ste. Anne Paper Company. Anon. Pulp and Paper 25, 1267-1271 (Oct. 6, 1927). An illustrated description of the recently completed mill at Beaupre, Que.—A. P.-C.

New Thunder Bay Paper Mill Begins Production. Anon. Paper Trade J. 85, No. 17, 78, 84 (Oct. 27, 1927). A brief description of the mill.—A. P.-C.

Longview Fibre Co. Builds Up-To-Date Plant. Anon. Paper Trade J. 85, No. 17, 37-39 (Oct. 27, 1927). Description of the 100-ton sulphate mill under construction at Longview, Wash., which will use sawmill refuse from the Long-Bell Lumber Co.—A. P.-C.

Notable Additions Completed at Powell River. Anon. Paper Trade J. 85, No. 17, 47-49 (Oct. 27, 1927). Description of the recent additions to the mill of the Powell River Co., Powell River, B. C., which bring the capacity up to 475 tons of news print daily.—A. P.-C.

Brompton Pulp & Paper Co. Plant Extended. Anon. Paper Trade J. 85, No. 17, 57 (Oct. 27, 1927). Description of the enlarged mill at Bromptonville.—A. P.-C.

Treatment of Water for Industrial Purposes. H. J. Wheaton. Paper Maker & Brit. Paper Trade J. 74, 589-596 (Dec. 1, 1927). An address describing the impurities usually present in natural waters and the common methods, both chemical and mechanical, of dealing with these impurities, and indicating points that should be taken into consideration when selecting the most suitable type of plant to meet the varying conditions that arise in practice.—A. P.-C.

Messrs. Bowater's Paper Mills. The Paper Plant. Anon. Paper Maker and Brit. Paper Trade J. 74, Annual No., 7-31 (1927). A description of the new plant at Northfleet, with special reference to the prime movers and power equipment.—A. P.-C.

Daylight Illumination. Walter N. Polakov. Paper Trade J. 85, No. 21, 45-49 (Nov. 24, 1927). A discussion of the merits of the Sunlike illumination apparatus.—A. P.-C.

Thunder Bay Method of Handling Pulp. E. C. Smith. Pulp and Paper 25, 1553-1554 (Dec. 1, 1927). A description of the method used in loading pulp barges at the Thunder Bay Paper Company's groundwood mill, Port Arthur, Ont., and unloading it at the Wisconsin Rapids mill of the parent company.—A. P.-C.

Madawaska Mill of Fraser Paper Ltd. Rufus J. King Paper Ind. 9, 1692-1694 (Jan., 1928). A description of the mill.—A. P.-C.

The Vacuum Method of Paper Drying*

By Ogden Minton [1]

The earliest paper machines had no dryers. The paper coming from the presses was wound directly on the reel which was a sort of large drum and when sufficient had accumulated it was cut off and the sheets were then hung in the air to dry. In 1821, T. B. Crompton, an Englishman, obtained a Patent for drying paper by means of a cloth which held the web of paper against heated cylinders. The cylinders were heated by a sort of basket stove hung inside of the cylinder and it was fired with wood. Steam soon supplanted the fire basket to heat the dryers and from that day till the advent of the Vacuum Dryer there has been little change in the principle of drying paper. More significant still is the fact that until very recent years little study has been given to the subject and the actual process of drying was not understood from a technical standpoint. In February 1926, the writer presented a paper to the Technical Association of the Pulp and Paper Industry at their convention in New York the title of which was, "Thermodynamic Comparison of Paper Drying Methods." While that paper was not by any means exhaustive or final it nevertheless pointed out the Thermodynamic principles involved and showed how important it was to consider the theory of vapor pressure in any consideration of this kind.

In discussing the Vacuum Dryer with paper mill engineers and executives the writer is continually faced with statements that they now use so many pounds of steam to dry so many pounds of paper. When the facts are carefully investigated it is not at all uncommon to find that they are claiming a drying efficiency considerably better than 100 $a \times c$. In most cases this misstatement occurs because they run tests and do not consider the heat going to the air which in turn passes through the paper machines and out the stacks over the machines, which heated air

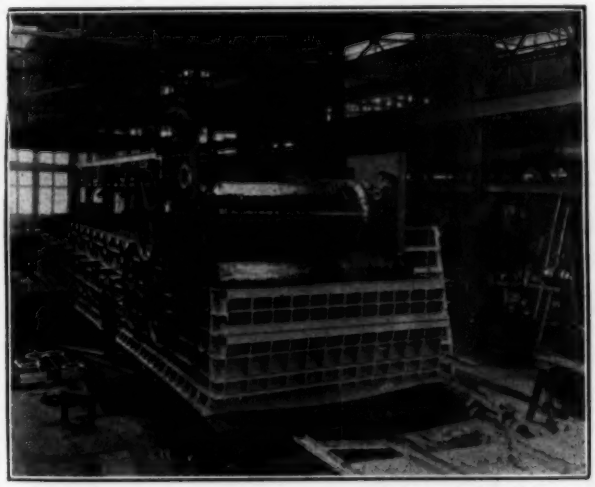


FIG. 1
The Drier Being Built

materially aids in the drying of their paper and without which they would have to shut down their machines. In other cases this heated air is included in their calculations but the results obtained from their data are wrongly computed.

Misstatements of this nature are very hard to combat. No paper mill man likes to have an outsider come in and tell him that he does not know what he is doing or that he is using much more steam to dry his paper than he thinks he is using. The writer is also faced with statements made by him in 1924 to the effect that it is impossible to run a fair test of paper machine dryer section and be at all sure of the data taken. Just how a fair test can be run on a standard paper machine dryer section is still a mystery to the writer.

All of the above, however, does not mean that it is impossible or impractical to get a very fair approximation of the quantity of steam being used to dry paper in any particular case. Even this, however, is difficult to do. Several comprehensive tests of paper machine dryer sections have been made and in each

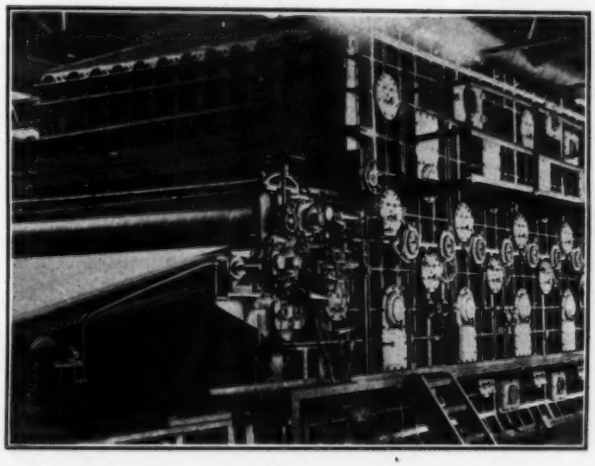


FIG. 2
Paper Entering Drier Section

and every case these particular tests show the thermal efficiency as a low figure.

Heat Balance Data Obtainable

In the case of the Vacuum Dryer it is possible from the very nature of the device to get real accurate data. The water evaporated from the sheet of paper is condensed in the condenser and it is a simple matter to weigh it. The steam going to the dryers can be accurately determined by weighing the condensate from the dryers. No heated air is necessary or used. The pressure, temperature and moisture content of the steam can readily be determined by gauges, thermometers, and a calorimeter, all commonly used instruments well understood by any engineer.

More than this any test of a Vacuum Dryer will be exactly like a similar test run at a different mill, for the conditions are the same. It is not dependent on weather conditions such as temperature and humidity. The Vacuum Dryer actually manufactures its own atmospheric or rather lack of atmospheric conditions.

The standard paper machine dryer section loses in thermal efficiency due to the quantity of heated air that it exhausts out of the ventilators and this depends on the size and kind of hoods used, the temperature and humidity of the incoming and outgoing air, and on the quantity of this air and also to a very large extent on the distribution of this air through the various passes of the dryer section.

The losses in a Vacuum Dryer are radiation from exposed journals and in a slight superheat of the vapor going to the condenser and these losses are very slight. The dryers themselves are in a high vacuum and can lose little heat as they operate on the same principle as a thermos bottle. Repeated tests covering long periods of operation have shown a thermal efficiency of the Vacuum Dryer of from 95 to 97%, based on an evaporating temperature of 100°F. If these figures were computed back to an evaporating temperature of 170°F. (the conditions under which

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a standard paper machine dryer operates) the Vacuum Dryer would show an efficiency of better than 100%. In other words the Vacuum Dryer will and is today drying paper with less steam than is theoretically needed by a standard bank of dryers.

The writer has yet to see an authenticated test of a paper machine with standard dryer section that operates at a thermal efficiency in excess of about 65 $a \times c$ and most of the tests he has accurate data about show efficiencies lower than this.

The Vacuum Dryer at Kenogami

In December 1926, a Vacuum Dryer was installed in the paper mill of Price Bros. & Co., Ltd., at Kenogami, P. Q., Canada. This dryer contains 20 dryers, 5 feet in diameter with a face of 152 inches. It is equipped with one top and one bottom felt together with hand and automatic guides and automatic felt stretches. To this dryer is attached a suitable condenser, dry vacuum pump, air cooler, etc. It has now been in continuous operation for over six months drying standard newspaper at a speed of 700 ft. per minute, at a vacuum of approximately 28" of Mercury. The speed of this particular machine is limited by the wet end to 700 ft. per min. but the dryer is capable of drying the paper at a speed of 1,000 ft. per minute. The Vacuum Dryer was installed this size so that at a future date the wet end of the machine could be rebuilt and the higher speed obtained.

Just before the Vacuum Dryer was installed on No. 1 paper machine at Kenogami, Price Brothers & Co., Ltd., ran a very complete test on this paper machine in order to compare results before and after the installation of the Vacuum Dryer. This test started in October 31, 1926, and was carried on continuously till November 13, covering a period of 14 days. It was as accurately made as was humanly possible and the results sufficiently checked to insure their being more than an approximation. This particular test is one of the few, in the results of which, the writer has any confidence.

After the Vacuum Dryer was installed a similar test was made with all conditions the same as before, except that the Vacuum Dryer was substituted for the old dryer section. The paper machine originally consisted of a standard 156" Fourdrinier with couch roll. The wire was supplied with a shake. The press part consisted of three standard presses with granite top rolls and rubber covered bottom rolls. The dryer section consisted of 33 five foot diameter dryers and one five foot diameter sweat dryer and one baby dryer 25½" diameter.

The test of the paper machine equipped with the Vacuum Dryer was conducted continuously for a period of six weeks. This test started December 7, 1927 and was concluded January 22, 1928. Full details of these two tests would take too much space in this paper. Some of the more important results, however, will be given later.

Claims

Six years ago the writer made various claims for the Vacuum Dryer which were considered by many paper mill engineers to be gross exaggerations to say the least. The proof of these claims

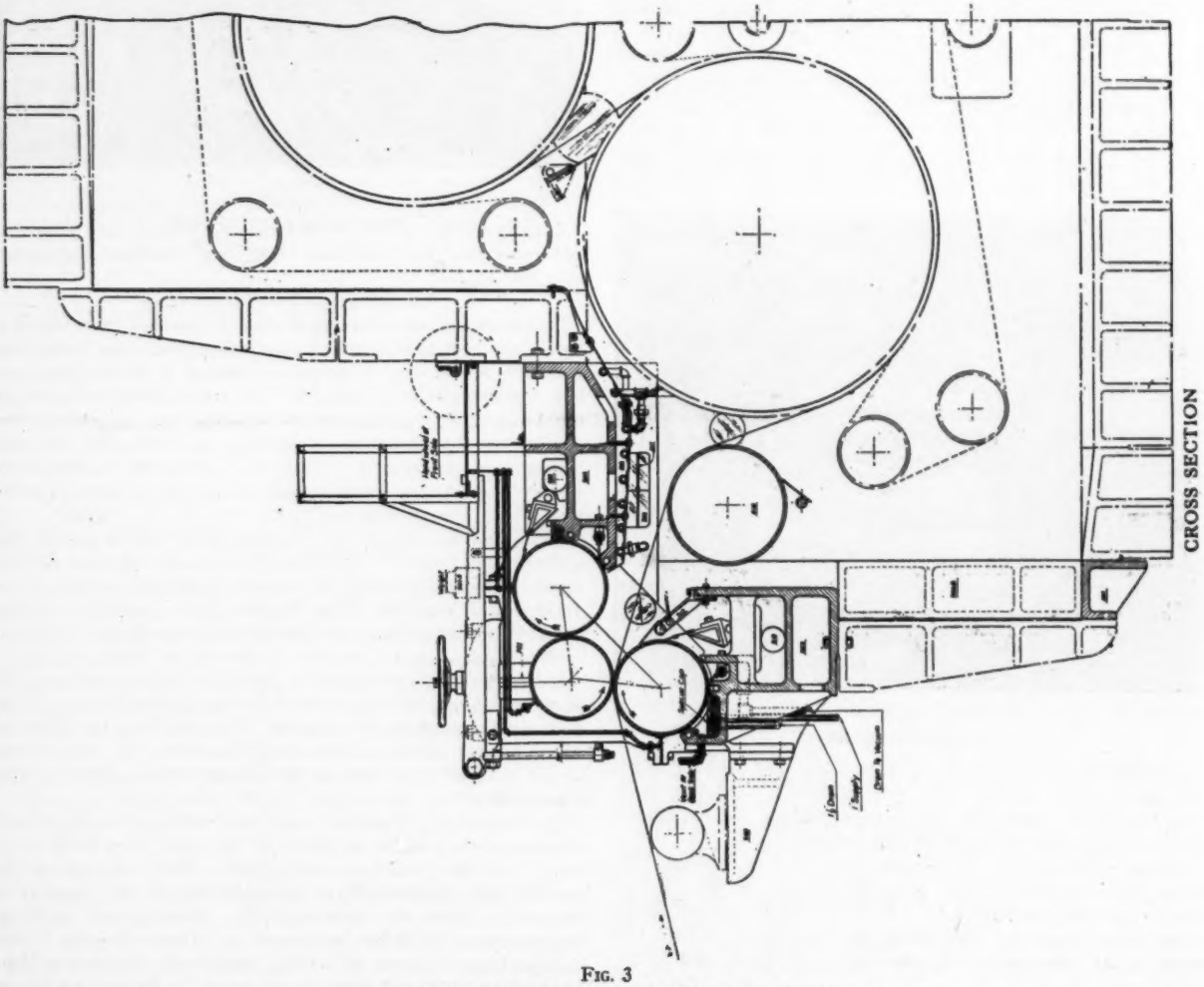

FIG. 3
Cross Section of Ingoing Seal Showing General Arrangement.

was lacking until recently. Until a large Vacuum Dryer was installed and operated over a period of several months claims, such as these, could not be substantiated with actual operating figures. However, actual proof of these claims are now available.

The claims referred to above were as follows:

CLAIM No. 1. The Minton Vacuum Dryer marks a revolutionary improvement in the paper making industry second only to the advent of the Fourdrinier paper machine.

CLAIM No. 2. The Dryer section of a paper machine is less than half as long when equipped with a Minton Vacuum Dryer.

CLAIM No. 3. The drying process very closely approximates 100% Thermal efficiency.

CLAIM No. 4. No vapors are set free in the machine room. No hood is needed. Roof of machine room can be of ordinary construction, there will be no rotting of the roof.

CLAIM No. 5. All the heat used to dry the paper is returned in the form of heated water in the hot well of the condenser and may be used where needed in the paper mill. In winter time this is a very valuable feature.

CLAIM No. 6. Working conditions in the machine room are very greatly improved and the machine is easier to tend.

CLAIM No. 7. Dryer felts are half as long as on a standard machine and their life twice as long. This cuts Dryer Felt cost to at least ¼ of the present practice.

CLAIM No. 8. Very low drying temperature—100° F.—thus producing a stronger, better sheet of paper, with a higher pop test.

CLAIM No. 9. Absolute control of drying, which is independent of weather conditions, making for uniformity of product.

CLAIM No. 10. Less power required.

CLAIM No. 11. In many cases a saving in steam consumption can be shown of over 50%.

CLAIM No. 12. The cost is no greater than for a standard dryer section of equal capacity.

CLAIM No. 1. In substantiation of this claim, which is a very broad statement, I should like to refer to the "Report of the Committee on Power and Drying," submitted by Mr. E. B. Wardle (Chairman) in the "Proceedings and Transactions of the Technical

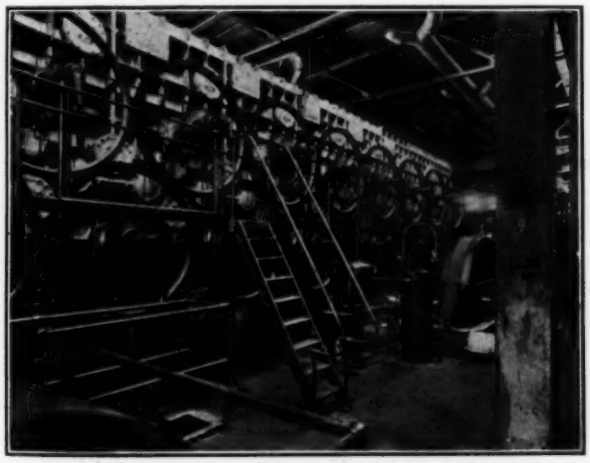

FIG. 4
View of Driving Side of Driers.

Section of the Canadian Pulp and Paper Association, Volume VI, 1927-1928 on page 7, in which Mr. Wardle says, "There can be no doubt of the truth of the statement that the Vacuum Dryer marks a step forward in the art of paper making second only to the Fourdrinier machine itself." Mr. Wardle is the Chief Engineer of the Laurentide Pulp and Paper Company and has done a great deal of important work in connection with drying paper and, I think I am entirely safe in saying, is generally acknowledged as one of the foremost paper mill engineers in Canada. His opinion in generally sought in matters of this kind and an expression of opinion like the above coming from him officially is just about positive proof of claim No. 1.

CLAIM No. 2. Results of the test of the Vacuum Dryer at Kenogami shows 5.65 lbs. of water evaporated per sq. ft. of actual drying surface while the test of the original dryer section shows 3.07 lbs. of water evaporated per sq. ft. of actual drying surface. It should be remembered in this connection that the Vacuum Dryer at Kenogami is just loafing as it was designed and is capable of drying 1000' per minute and is only running at 700 per minute. The full capacity of the old dryer section was

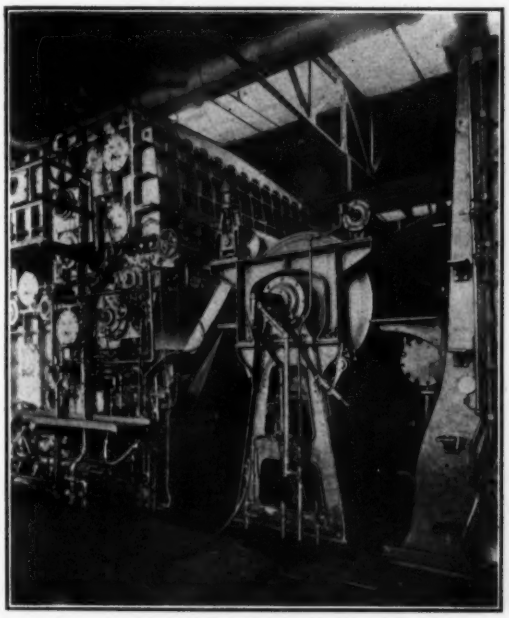

FIG. 5
Paper Leaving Drier Section.

740 ft. per minute as a maximum. The length of a dryer section is in direct proportion to its ability to evaporate water per sq. ft. of actual drying surface. The figures from the tests taken show that the Vacuum Dryer is now evaporating 5.65 lbs. of water per sq. ft. of actual drying surface while the dryer is loafing. A special test was made with several dryers shut off and an evaporation figure of 7.3 lbs. of water per sq. ft. of actual drying surface was obtained which is considerably better than two times the evaporation per sq. ft. of the old dryer section which was being operated at full capacity during the test referred to above.

CLAIM No. 3. The results of the test fully justify this claim as repeated tests have shown thermal efficiencies varying between 95% and 97%, which surely is a close approximation to 100% as stated in the claim.

CLAIM No. 4. That no vapors are set free in the machine room is of course a fact due to the very nature of the Vacuum Dryer as all of the vapor must go to the condenser. At Kenogami they have removed the stacks over the machine and have boarded up the roof, thus doing away with the ventilation of this end of their machine room entirely and discarding the fans formerly in the stacks. Only sufficient ventilation is required to remove vapors from the wet end of the machine. There is a decided improvement in the atmospheric conditions around No. 1 paper machine since the Vacuum Dryer was installed. The air is cool and quite free of moisture.

CLAIM No. 5. This claim needs no discussion. All the vapor coming from the dryer passes to the condenser where it is condensed and the condensate and the cooling water are both available

for whatever use the mill may have for it. In various mills the use of this warm water will vary. It is ideal to wash out sulphite blow pits and, of course, in winter can be used in many places.

CLAIM No. 6. Because of the shorter distance from the last or third press to the calender and reel there is a decided saving in distance for the machine crew to walk and as mentioned above, under claim No. 4, the atmospheric conditions of the machine room are very greatly improved. The importance of these advantages are often not fully appreciated until seen.

CLAIM No. 7. The dryer felts are just half as long on a Vacuum Dryer. The present dryer felts have run for over 135 days so far and have still much useful life in them. We do not yet know how long they will run. They are subjected to only 100° F. and run dry. The vapor that is formed under them is slightly superheated and the felts are not subject to rotting as on a standard dryer section. The dryer felts on the old dryer section had an average life of 65 days. The present felts that have now run for 135 days show no signs of deterioration other than that they have narrowed up a little. The fabric appears still much the same as when they were first put on the machine and as mentioned above we have no idea how long they will run. They have, however, run long enough now to fully justify the claim that the cost of dryer felts on a Vacuum Dryer will be something less than one-forth the cost of dryer felts on a standard dryer section.

CLAIM No. 8. Actual measurements of the drying temperature have shown that at 28" vacuum the drying temperature of the paper is almost exactly 100° F. The paper coming off No. 1 machine at Kenogami has literally been shipped all over the world. Some of it has gone to Australia, some to England and some to Canada and the United States. That it is good paper is shown by the fact that the various rolls have been carefully kept track of and there have been no complaints regarding it. It is a good if not a better sheet than made in the mill.

CLAIM No. 9. The Vacuum Dryer manufactures its own atmospheric or rather lack of atmospheric conditions. The Paper Maker has complete control of this. A wet day, a hot day, or a cold day make no difference in its performance, this must make for uniformity of product.

CLAIM No. 10. The power requirements of the Vacuum Dryer are not definitely known. From what figures are available it appears that the Vacuum Dryer is taking just about the same amount of power as the old dryer section took. The power used by the fans in the old dryer just about matches the power used by the Vacuum Pumps. The newer designs of Vacuum Dryers will, however, take less power per ton of paper due to improvements in the design of the steam joints on the back of the dryers and on a new and improved type of drive and of an improved design of the ingoing and outgoing seals.

CLAIM No. 11. The Vacuum Dryer at Kenogami is making a saving in steam of 43.7%. It should be remembered here that this particular paper machine was fairly modern and was equipped with a good type of hood and the room was well ventilated. If a Vacuum Dryer was substituted for the standard dryer on some of the poorer paper machines in the country there is no doubt but what a saving of 50% in steam could be shown.

CLAIM No. 12. It can readily be shown that a 160" newspaper Vacuum Dryer can be installed in a mill for less than the standard dryer section. Actual figures of the costs of the Vacuum Dryer are available and when the Vacuum Dryer is credited with saving in building cost, etc., a substantial saving is shown.

All of the above claims have been fully substantiated by the

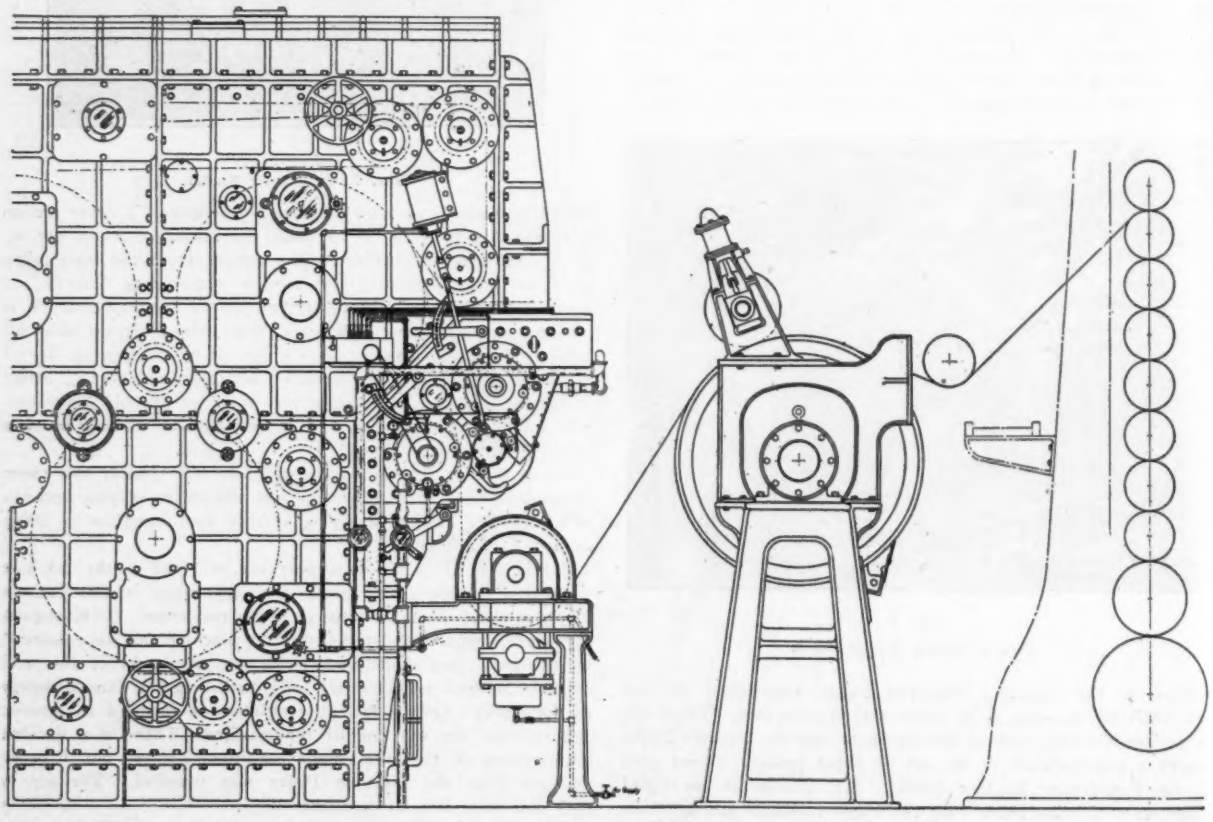

FIG. 6
General Arrangement of Outgoing Seal Showing Sweat Driers.

actual performance of the dryer at Kenogami and there is considerable margin left over.

Actual conversion costs taken at Kenogami in the regular course of business (not taken from tests) show for the months of Jan., Feb. and March 1928, a saving of almost exactly $2.00 per ton of paper made. This comparison was made between No. 1 machine equipped with the Vacuum Dryer and the average of Nos. 2, 3, 4, & 5 machines, which are exactly similar to No. 1 machine in size and almost every detail except that No. 1 machine is equipped with the Vacuum Dryer and the others have the standard dryer sections.

Safety of Operation

One of the questions regularly asked about the Vacuum Dryer is, "What happens when the paper breaks in the Vacuum Dryer?" The fact is the paper rarely does break in the Vacuum Dryer. A partly torn sheet or a sheet with a bad slug in it will as a rule pass from the third press through the Vacuum Dryer and not break till it gets out of the dryer. Of course if the paper going in is to badly torn it may break inside the Dryer. If this happens the vacuum is broken and the windows opened and the paper removed just as in a standard dryer and it takes about the same time to get the paper out and get the machine running again as in the case of the standard dryer. Individual runs as high as 57 hours without a break of any kind have been made on the Vacuum Dryer at Kenogami drying 32 lb. news at 700 feet per minute. Because of the low drying temperature the shrinkage of the paper is greatly reduced and the paper is not as liable to break. To the best of the writer's knowledge paper has never snapped off in the Vacuum Dryer unless due to some perfectly obvious cause such as a torn sheet coming from the last press and passing into the dryer in that condition. The regular dryer, "Snap Off," does not occur in the Vacuum Dryer.

As evidence of the safety of operations reference may be again had to the Proceedings and Transactions of the Technical Section of the Canadian Pulp and Paper Association on Page 59, in which Mr. W. G. Mitchell, Assistant-to-the-President of Price Brothers & Co., Limited, says:

> "During the last two weeks we have had a continuous two weeks test of the Vacuum Dryer under way, and the results of the week's test just closed, that is last week, are most complete. During that time we were able to maintain rather more satisfactory conditions in certain respects than previously. During that time the average production of the machine, operating at a speed of 690 to 698 ft. per minute was 55.3 tons, trimming 142 inches of standard weight newsprint. There was a period of three consecutive days when the production of the machine averaged 57.5 or 57.6 tons. That figure is of interest as indicating the question that has been asked many times in connection with the Vacuum Dryer: 'How safe it is possible to operate such a machine, and how will it compare in production performance with the open stack dryer?'
>
> "The results of our investigations today indicate that there is no inherent objection to an enclosed dryer part from that point of view, and it must be said our trials have been conducted with the first experimental commercial size machine that was ever built, and we would ourselves do somethings differently, if we were building that machine again. Notwithstanding these handicaps, it has been possible to make the record that I have just given to you. I have not troubled to figure that performance in machine efficiency percentage, but it would probably show at least 94% or 95% certainly so far the three-day period to which I referred."

The above statement was made by Mr. Mitchell on January 26, 1928, and since that time there have been many weeks run where there was no lost time chargeable to the Vacuum Dryer in any way. The Vacuum Dryer at Kenogami has now been running for many months and tests of every sort have been made on it to find out its possibilities. The entire operating and engineering staff or Price Brothers & Co., Limited, have made an intensive study of the Vacuum Dryer in great detail, with the view to other installations.

Two New Driers

The result of that study has been that they have ordered two Vacuum Dryers each 234" wide designed to be run at a maximum speed of 1200 ft. per minute. These two Vacuum Dryers are now in course of construction and will be delivered late this summer for installation in the addition they are making to their Riverbend mill. These new Vacuum Dryers will contain several engineering features far in advance of present practice, including an individual worm drive to each drying cylinder with individual motors attached to each of the worm drives. Some of these motors will be interlocked electrically at critical points and the other motors used as trailing motors so that a positive or negative torque can be applied as desired to control the felt and paper tension throughout the bank of dryers. Every roll will be mounted on SKF spherical roller bearings. The entire drive will be fitted with dynamic braking in order to make it possible to stop the dryer quickly. If this were not done the dryer might run for a long time as the anti-friction bearings do not exert sufficient friction to stop the dryer anywhere nearly

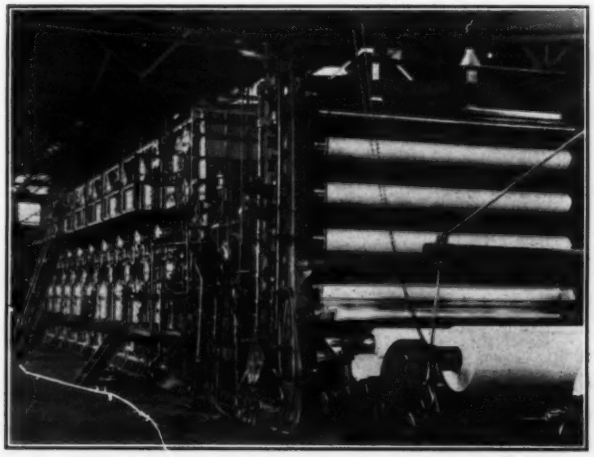

FIG. 7
Calendering of Vacuum Dried Paper.

quick enough. These new Vacuum Dryers will contain 22 dryers, 5 ft. diameter, with a face of 234" and a baby dryer 21" diameter. Similar machines are regularly equipped with 44 dryers of the open type.

The drying of newsprint at high speed is about the most difficult job that the Vacuum Dryer will ever have to perform. The sheet is weak and the speed high and the machines are wide. The Vacuum Dryer is adaptable to drying any kind of paper and most kinds of board as well as cloth of all kinds. The same thermal efficiency will be obtained in every case. Savings of large amounts can be shown on some of the higher grades of paper. One of the outstanding uses of a Vacuum Dryer is the drying of tub sized papers. Paper the equivalent or better than loft dried paper can be produced in reels and calendered in reels with a tremendous saving to the paper maker, in labor, steam cost, broke, and floor space. The Vacuum Dryer may be substituted for the second bank of dryers on a writing paper machine and the paper after passing through the size tub and size press, can be passed through the Vacuum Dryer and paper produced the equivalent of the best loft dried paper, all in one operation on one machine continuously. Repeated tests have proven this.

In a writing or book machine the Vacuum Dryer can be substituted for the standard bank of dryers and the paper dried

PRICE BROTHERS & CO., LIMITED
Kenogami Paper Mills

Results of Three-Day Production and Steam Test on the Minton Vacuum Dryer Beginning 10:40 A. M., Dec. 20, and Ending 8:00 A. M., Dec. 23, 1927

	Period			
	21 hrs. 20 mins. ended Dec. 21, 8 A. M.	24 hours ended Dec. 22, 8 A. M.	24 hours ended Dec. 23, 8 A. M.	Average of 2 days
PRODUCTION Data:—				
1. Speed of machine (ft. per min.)	691.66	689.51	688.72	689.96
2. Width of sheet (ins.)	143.05	142.85	143.61	143.17
3. Basis weight (lbs.)	31.84	31.81	31.93	31.86
4. Lost time (hrs.)	.17	.23	.86	.42
5. Length of period (subtracting lost time) (hrs.)	21.17	23.76	23.13	22.69
6. Trim	136.0	136.0	138.9	136.9
Results:—				
7. Calculated production of paper over dryers per hr. (lbs.)	5,251	5,222	5,263	5,245
8. Calculated production of paper over dryers for period (tons)	55.5	62.1	61.0	59.5
9. Official net shipping weight of paper for period (tons)	48.5	52.4	53.4	51.4
10. Weight of finished culled rolls for period (tons)	.3	1.3	1.1	.9
11. Total finished production for period (tons)	48.8	53.7	54.5	52.3
12. Loss from trim (tons)	2.8	3.0	2.0	2.6
13. Broke for period (tons) unaccounted for broke for the period	3.9	5.4	4.5	4.6
14. Percentage of paper over dryers in actual broke	7.0	8.7	7.4	7.7
STEAM Data:—				
15. Total condensate from dryers (lbs.)	294,818	311,885	292,165	299,623
16. Temperature of condensate	217	217	207	213.7
17. Temperature of high pressure steam to machine (deg. Fahr.)	435	426	413	424.7
18. Pressure of high pressure steam to machine (sq. in.)	133	132	133	132.7
19. Degrees superheat in steam	77.7	69.3	55.7	67.6
20. Vacuum	27.8	27.85	27.91	27.85
21. Temperature of vapor inside dryer casing	119.2	117.9	115.3	117.4
22. Temperature of sheet entering dryer	61.5	61.3	61.4	61.4
23. Percentage moisture in sample of sheet to dryer	71.44	71.90	71.13	71.49
24. Percentage moisture in sample of sheet from dryer	5.7	5.6	5.7	5.67
25. Total lbs. water evaporated from sheet for period (weighed)	267,809	290,903	275,607	278,106
Results:—				
26. Total lbs. steam for period from condensate (F. & A. 212)	319,803	336,761	316,372	324,354
27. Total lbs. steam for period from flow meter (F. & A. 212)	305,084	324,125	305,018	311,409
28. Lbs. steam (F. & A. 212) per lb. water evaporated	1.193	1.162	1.16	1.17
29. Lb. water evaporated per lb. paper produced	2.409	2.344	2.263	2.337
30. Lbs. steam per ton paper over dryers (F. & A. 212)	5,755	5,427	5,196	5,451
31. Lbs. steam per ton finished paper (F. & A. 212)	6,508	6,428	5,988	6,306
32. Theoretical lbs. steam per lb. paper over dryers (F. & A. 212)	2.722	2.647	2.553	2.638
33. Actual lbs. steam per lb. paper over dryers (F. & A. 212)	2.877	2.713	2.598	2.725
34. Thermal efficiency, percentage	94.6	97.5	98.25	96.80
35. Percentage of total steam lost in radiation				5.21
36. Heat balance				102.01

down to about 14%, after which it is taken out of the Vacuum Dryer and passed over four or five very hot dryers in the atmosphere, and the temperature of the sheet raised as near the boiling point (212° F.) as possible and rosin sized sheets will show a very decided improvement in sizing qualities.

Vacuum Dryer for Pulp

The Vacuum Dryer is an ideal method of drying pulp of all kinds and the resulting pulp will be better in every way. The pulp will be more hygroscopic and stronger and of a better, cleaner color. The saving in steam is also an important item in drying pulp. In the case of board mills the Vacuum Dryer will have probably its most useful field. Some of the modern board machines have as many as one hundred and ten dryers and the machines are becoming much too long and cumbersome. By using the Vacuum Dryer the number of dryers can be cut in half and the same amount of board produced.

Many cases exist where it is desired to speed up a paper machine but the limit has been reached because of lack of space in which to place additional dryers. In these cases a Vacuum Dryer can be substituted for the standard bank of dryers and the speed of the machine doubled. In some cases enough steam will be saved by the Vacuum Dryer to dry the additional amount of paper, thus making it necessary to add to the boiler plant.

For those who are interested in going through the figures a three day period test of the Vacuum Dryer at Kenogami is to be found on this page. The writer has endeavored in this paper to show the actual results obtained from drying paper in a vacuum. The data given in the test table will give pretty full information to those interested in such data. Heretofore such data has not been available and it is with a good deal of pleasure that this information is now given out. The results obtained are almost exactly in accord with the predictions made for the Vacuum Dryer many years ago by the writer. To have actual results agree with the predictions was more than a coincidence. Much intensive and intelligent engineering study has been given to the Vacuum Dryer for the past eight years by those of us interested in its development. The results are due to the combined efforts of a group of men, all of whom have spent their entire time on this one idea alone. Little data was available and much original research work had to be done before results began to show.

While it has been heretofore claimed, results now prove that the Vacuum Dryer marks a revolutionary improvement in the art of paper making second only to the advent of the Fourdrinier Paper Machine itself.

To Establish Machinery Museum

ALBANY, N. Y., September 4, 1928.—The Jefferson County Historical Association is to have an important addition in the form of a museum housing machinery and relics identified with the early history of paper manufacturing in Northern New York. The new museum is made possible through the generosity of Mrs. Stuart D. Lansing, widow of the late Stuart D. Lansing, head of the Bagley & Sewall Company until his death. Mrs. Lansing, following out the wishes of her late husband, is remodeling part of the historical building in Watertown at considerable expense. The principal part of the exhibit will be a collection of water-wheels, which date from 1840. These wheels were collected by Clarence E. Kinne, of the Bagley & Sewall Company, and the late Mr. Lansing. This collection of water-wheels is associated with a period in the papermaking industry in Northern New York when water was practically the sole operating power of the mills. It was gathered from many sections of the North Country.

International Interest in TAPPI Fall Meeting

A cablegram has been received by the Secretary of TAPPI indicating that J. H. Hill, Director of Brittains, Ltd., of Cheddleton, England, and his son are on their way to America to attend the Wausau meeting of the Technical Association on September 25, 26 and 27.

Arthur Baker of Bowater's Paper Mills, Ltd., of England, is also planning to visit Canada in September and will probably be able to attend the meeting.

M. P. Bhargava of the Forest Research Institute of Dehra Dun, India, is now visiting mills in the United States and will be at Wausau for the meeting.

Belo Dorner, the inventor of the cornstalk pulping process is from central Europe and expects to participate in the discussion concerning this process on September 25th.

Ueber Das Harz Der Nadelhoelzer

In response to several requests the Technical Association has obtained a few copies of Dr. Rudolph Sieber's book entitled Ueber Das Harz Der Nadelholzen Und Die Entharzung Von Zellstoffen. There are two or three copies remaining and will be sold to TAPPI members for $2.00 and to others for $3.50.

Section of the

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Edited by
THOS. J. BURKE, C. A., Sec.-Treas.

Some Results of Business and Market Research *

By John C. Kirkwood

An address delivered before the Business Research Association of Great Britain.

The objects of business research are to give greater security and prosperity to business enterprise, and to make human employment more agreeable, and reward it more bountifully. The spur of business research is competition, the struggle to survive, and its incentive is profit.

RESEARCH, as applied to the practice of business, has as its aims:—

The elimination of risk, speculation and blindfold endeavor; in other words, it aims to make the practice of business safe, sure and profitable.

The elimination or reduction of waste and inefficiency in the use of materials, time, money, machines and human labor, also their economic utilization.

The discovery of new processes and practices in production and distribution calculated to produce economies in the use of materials, time, money, machines and human labor.

The discovery of new and greater markets for the increased absorption of the products of industry, and the larger and more profitable utilization of money and persons.

Summed up, the practice and objects of business research are to give greater security and prosperity to business enterprise, and to make human employment more agreeable and reward it more bountifully.

How widely research is being applied to the practice of business is indicated in what follows:—

1—Research Takes the Risk Out of Business

Risk in business is related to ignorance of facts and conditions, or to a deficiency of understanding and foresight. Where knowledge, understanding, and foresight are possessed in ample measure, and where judgment governs conduct or practice, risk which is unillumined, and speculative venturing, are washed out of business practice.

MODERN ACCOUNTING PRACTICE—The elimination of risk or blindfold venturing in business practice is accomplished by correct accounting practice. Correct accounting practice establishes a series of financial and operating ratios or relationships which put and keep a business on an even keel, and which protect it from the perils of periods of storm and calm. Thus, for example, right accounting practice will establish—

The correct ratio of costs and expenses to volume of business.

The correct ratio of property expenses to investments and sales.

The amount of turnover or gross sales required in relation to (a) stocks carried, (b) fixed capital investment, (c) total capital employed.

The percentage of net profit which should be earned on the net worth.

The correct working capital ratio stated in £ of current assets per £ of current liabilities.

The correct percentage of net earnings which should be left in the business.

The correct amount of capital required in relation to volume of business being done.

The correct financial structure of the business.

This kind of information is the product of research in accountancy practice.

BUDGETARY CONTROL—The risk in business practice is being eliminated by the formulation of budgets for the instruction and guidance of the production manager, the sales manager, and the financial manager.

In a certain fine-paper mill, budgetary control co-ordinated production and sales, set up standards, indicated economical purchasing, and checked labor and indirect expenses. A summary at the end of the year showed that centralized control over operations and the introduction of standard production rates for all producing units or processes led to an increased efficiency throughout the plant. The average production gradually rose from 5 per cent below to 7 per cent above the estimated standard rates. The actual net production was 4 per cent higher than the budget estimate, and the forecast in sales of the individual grades was 96 per cent correct. Manufacturing expenses were within 5 per cent of the correct ratio to estimated expenses. Centralized budgetary control brought about 98 per cent of accuracy on the average, and even in the very short periods of forced idleness on account of poor industrial conditions during two summer months, labor expenses were kept in approximate ratio to actual production results.

Intensive sale activities and advertising campaigns planned and performed according to the budget resulted in the attainment of 96 per cent of accuracy in sales estimates.

The well-planned routine of operations and production enabled the management to keep its stocks of raw material at a minimum, and thus avoided an unnecessary locking up of funds.

Budgetary control improved co-operation among department heads; it made possible a better linking up of processes and operations; the flow of materials from process to process or from

* The Canadian Chartered Accountant.

department to department was regulated, and functioned far better than before centralized budgetary control was adopted.

The sketchy record of an instance of the efficacy of the budget system suggests how budgetary control eliminates speculative or blindfold endeavor, and how it can and does contribute to business safety and prosperity.

2—Research and Market Study

To illustrate how risk or speculative endeavor can save heavy losses, there is the case of a very successful national advertiser, one spending quite £100,000 a year in newspapers and periodicals who contemplated adding a new line to his family of products. Before he made any decision he had his advertising agency make searching trade investigations in several representative community centers. The results of this investigation made it clear that the market for the new product was a definitely limited and admittedly difficult one, and that an established and moderately well-advertised leader had sales far below what a casual observer would imagine. The investigation also made it quite clear that a new type from that contemplated was far more likely to succeed. The report made after the research work left no room for doubt as to what the right decision should be, so this manufacturer, at a cost of £100 or so, avoided an adventure which, if taken, was bound to be a financial failure, and which failure would do much damage to his prestige.

A manufacturer of toilet specialties made a rather thorough investigation of the face cream market before he should commit himself to the addition of this line. In particular he wished to discover the best shape or form and presentation (label or decoration) of the container for his face cream, should he produce it.

The research agency which he employed to make the required discoveries had made a number of dummy containers. These were made of plaster of Paris and were modelled by an expert. Each dummy cost £4, and there were prepared 10 dummies in all, ranging in shape from tall, slender jars to short, squat jars.

With these models research workers visted various chemists shops located in several representative towns and asked women cutomers which shape of jar they would prefer for a face cream. More than 2500 women were questioned in this way. The results were rather remarkable in their uniformity. Tests conducted among all classes of customers showed conclusively that women favored a certain shape above all others.

The next test was for color combinations. Again 2,500 women were questioned, and again the results proved overwhelmingly that women favored a certain color combination.

Thus this manufacturer of toilet accessories eliminated guessing and speculation from his venturing, and discovered sure roads towards feminine favor.

Research is being increasingly practiced by sales managers to discover (1) how sales resistance can be reduced or eliminated or conquered, and (2) how sales volume can be increased. When the product of sale is unstable in its substance, form or pattern, as it is in the case of ready-to-wear clothing for women, and in the case of textile patterns, and even of the material itself, then the sales manager's job is made one of extraordinary difficulty, and the need for sound knowledge and understanding of consumer, demand and trends is accentuated.

How one manufacturer of women's ready-to-wear clothing protected his business, through the activities and genius of his sales manager, is illustrated in the narration of the following example of research method.

The manufacturer in question set out to discover all the important points which could have an influence on his production and market. Thus, some of these points were—

The reduction, if any, in the purchasing power of the consumers of his product.

The change, if any, in the cost of living.

The general attitude of consumers towards buying—was there a feeling of buoyancy or of hesitation.

The extent and location of unemployment.

The outlook as it affected his business.

The trend in women's fashions and, in particular, in the length of skirts.

The prices which women would be likely to pay or respond to most readily.

The proportion of young and young-looking women wearing pretty dresses.

The fabrics and colors preferred.

To obtain this sort of information fifteen investigators were employed, their sole job being to get the facts as to economic conditions and purchasing and style trends.

When the information as collected by this corps of investigators was collated and analyzed, the facts set forth were tested by two supplementary investigations, one in a large and one in a small town, neither of which was anywhere near any town visited in the original investigation, and the deductions made were found to have an exact application—that is, taking averages.

Thus this manufacturer ascertained exactly what the safe range of style was, and also the safe range of price, and he knew, too, that his salesmen could go to buyers in any and every part of the country and give them a good indication of how many of the maker's dresses they could sell in the season.

The manufacturer learned, with certainty, what to make. He divided his production plan into six sections, and then completely discarded the two extremes. The next big step in the simplification of production was the discarding of all fabrics except eight, and all colors except three. The investigation had placed it beyond question that the other fabrics and colors could not be sold in anything like the quantity which would make production profitable and the salesmen's work easy.

On the matter of salesmen's work: When the averages were worked out, charted and mapped out for each route, they provide the salesman with so much specific information, more of it and more accurate than was possessed by most retailers and buyers in relation both to the country as a whole and to their own localities, and so the salesman was master of the situation.

This citation emphasizes several facts of value to manufacturers. One is that the great middle market is always the reliable market. Another is, that it is possible to eliminate to the vanishing point guessing and gambling from the operations of business.

Much more might be said on how market analysis or study helps manufacturers to equalize production and sales; or, to put it another way, how the science of business forecasting is developing.

Here it is to be said that the farther away a manufacturer is from his market the less able is he to adjust intelligently production with demand or consumption, and by "farther away" is meant not distance so much as relationship. Thus, if and when a manufacturer sells only to and through wholesalers, he is separated from his market. He gets close to his market when he canvasses retailers, and he gets into his market when he canvasses consumers, even though consumers are supplied through retailers. It is being discovered that the closer one gets to the consumer the less fluctuation there is in the purchase and consumption of goods. Steadily it is being learned that the wide variations in business activity—the peaks and the valleys—are, to a very large extent, the consequence of production having proceeded at a rate in excess of current demand or consumption. This leads to periods of sub-normal activity during which stocks must be liquidated, often at a loss, before business can proceed on an even keel, with current production in line with current consumption.

The stabilization of business—the elimination of the business cycle—is believed to be a possibility, and it ever the business cycle, with its long train of misfortune and losses, is eliminated, then it will be a direct consequence of business research.

3—Research Develops New Uses

How research has enabled the gas industry to recover from the blow given to it when electricity became its serious competitor makes an interesting story. From the time of its first extensive use for street and house lighting, upwards of 70 years ago, gas was without a real competitor. Then came electricity, and gas began to slip backward, and continued to recede for quite 20 years. It was about the beginning of the present century that electricity succeeded in becoming the principal means of illumination. The blow given gas was really beneficient in its consequences for it led the producers of gas to study how gas could be advantageously used for purposes other than for lighting. It is as fuel rather than as an illuminant that gas is now mainly used. It is used, for example, to bake bread, to pasturize milk, to make confectionery, to press and iron clothes, to melt glass, to roast coffee, to vulcanize tires, to season timber, to smoke meat, to forge, to rivet, to galvanize, to weld, to anneal, to harden, to temper, and so on. Gas enthusiasts declare that it has 5,000 uses.

While its use in industry is enormous, yet it is its domestic use which is the main one—for cooking and heating. In the United States of America—

25 per cent of gas production is employed in industry.
54 per cent in the home.
21 per cent for street lighting.

Chief credit for saving the gas industry from its decline has to be given to the makers of gas appliances—gas mantles, gas heaters, gas cookers. In America, they are planning a research corporation to develop equipment for industrial users of gas.

In this country the producers and sellers of gas, as unified in the British Commercial Gas Association, have shown themselves to be possessed of a high degree of imagination and enterprise, and have developed the gas industry to one of immense proportions. While much of the credit for this notable development has to be given to the sales energy of the British Commercial Gas Association, yet research and its fruits have contributed largely to the demonstrated esteem of gas as an illuminant, as a fuel for domestic cooking and heating, and as an efficient and economical fuel aid agent in industry.

Recently a fairly old device has been given new and much larger markets as a consequence of research, meaning intensive investigation calculated to make new discoveries. The product in question is the metal hookless fastener which is now so familiar in this country on tobacco pouches and other forms of bags. It will come as a surprise to many to learn that this invention or device was originated in 1893, for most of us never saw it until after the war. It was the war which gave it a stimulated life, for the device was found to be admirable for closing the money belt for soldiers. After the war, research led to new applications of this closure mechanism. In America it has been extensively used and advertised in connection with a cloth over-shoe or boot, necessary in that land of much snow. It is being used also for closing gloves, clothing, hat-bags, and so on. Indeed, this metal hookless fastener is now being used in connection with 50 different articles of merchandise. Research revivified a slumbering business and has translated it into a lusty and aggressive salesman of its patented product.

4—Research As Applied to Advertising

Advertisers proposing to spend large sums on press advertising can and should make advance tests to discover the right kind of "copy" to employ, meaning the kind of copy to the appeal of proposals of which there will be prompt and large response from those whose attention and interest are to be canvassed.

The economic importance of measuring, by tests, the productive power of "copy" is perceived from the following instances:—

Of a series of fifteen advertisements for a player-piano, the best one produced 258 replies, the poorest 1 reply.

Of a series of five lathe advertisements, the best one produced 40 times as many inquiries as did the poorest one.

Of a series of eight advertisements of a book sold entirely by post, the best advertisement sold three times as many copies as did the poorest one.

Of a series of fifteen typewriter advertisements, the best one was twice as effective as the poorest one.

Commenting on these illustrations of the varying productive power of "copy" Dr. Daniel Starch, author of "The Principles of Advertising", points out that if all the fifteen advertisements of the piano-players had been as effective as the best one, the series would have produced 3,870 replies instead of only 796.

Dr. Starch's researches into the effectiveness of several groups of advertisements led him to the conclusion that the average advertisement appearing in good media has, approximately, only 50 per cent of the effectiveness possessed by the 10 per cent best advertisements in the same media and for similar products.

How to increase the responsiveness of readers to press advertising is a subject of growing importance, in view of the rising cost of advertising space and service, and research is contributing to this form of economy.

Thus a soap manufacturer supplying the consumer direct, and employing advertising to recruit and hold customers, recently decreased the cost per inquiry 25 per cent simply by altering the display treatment of his advertisements. Something over a year ago a study was made of modern trends in the reading habits of the public, and the company arrived at the conclusion that the motion picture had educated millions to a much quicker comprehension of any proposal presented through pictures and headlines.

In the new form of display treatment the headline or catchline is used as a unit of the lay-out to tie the picture at the top with the coupon at the bottom. The aim is to present the whole message and proposal at a single quick glance.

A maker of rubber soles used much newspaper space to tell the public about his rubber soles, but the results were very disappointing, so a research agency was employed to find out why the results were not up to expectations. Five causes of failure were discovered; they were—

1—The boldest advertising had been done during the holiday season when large sections of the public were away from their homes, and when their interests in both newspapers and advertising was greatly diminished.

2—The public did not know where to obtain the rubber soles locally.

3—The distribution was very defective. Many should-bestocklists did not carry this maker's brand of rubber soles.

4—The charges for affixing this maker's rubber soles were appreciably higher than the charges for leather soles.

5—Retailers, repair men, and the consuming public did not know enough about this maker and his product to make them ready to change over from brands much better known.

With the facts known, it became possible to face the advertising problem with confidence, and to avoid errors and waste.

5—Research by Questionnaires

To give greater safety and reward to their business operations, many manufacturers are going beyond the dealer to the dealer's customers, meaning the consuming public, by means of the questionnaire method. To have the consumer provide answers to carefully devised questions is to provide oneself with a wealth of information and opinion for the better guidance of management, the sales manager, and the advertising manager. The questions asked relate to the product and its use or uses, and the why and wherefore of its use; to the favor given competitive products; to shopping practice; to the quality and measure of the attention given to advertisements; to the media read regularly, and so on.

Just here it is interesting to record that the color of the paper

used for questionnaires is of importance, for it has been discovered that a light yellow sheet secured the largest percentage of returns. Dark blue is inferior in pulling power to white, and light pink is superior to white.

As illustrating the value of the questionnaire method the following example is instructive:

A company operating a fleet of touring motor-coaches sought direction from its patrons. To them it submitted a questionnaire asking such questions as—

What influenced you to travel by motor-coach?
Economy, convenient hours? Comfort? Other reasons?
Is this your first motor-coach journey?
Why did you choose a Pickwick motor-coach?
What do you think of the comfort of Pickwick motor-coaches?
Do you find the drivers courteous and helpful?
What do you think of the safety of motor-coach travel?
What features of this trip have you particularly enjoyed?
Suggestions for improving Pickwick service; remarks.

Thousands of replies were received teeming with information. Among the results of this research work were—

New schedules.
Additional services.
Longer intervals at stopping points on long runs for comfort and meals.
More information as to scenic attractions en route.
Better protection of luggage from weather and dust.
The employment of methods designed to overcome seasonal fluctuations in patronage.
The provision of a series of vacation and scenic folders.
A much increased esteem of Pickwick service.
A very remarkable development in the business of the operators of the Pickwick service.

6—Research and Standardization

Standardization, which is a child of business research, has accomplished marvellous and multitudinous economies; even so, it has a long way to go before its job can be said to be fully done. In this country we see a very determined effort being made to standardize the electrical supply industry. The interesting circumstance is that it is the Government which is promoting the project of the standardization and co-ordination of the electrical supply industry. It is estimated that when the project is finally developed and completed, the present consumption of electricity will increase to the extent of 400 per cent, with a saving 15 years hence of quite £50,000,000 a year—about £1,000,000 per week.

Instead of the work of generating and supplying electricity being done by the 500 firms or corporations now engaged in this class of business, there will be 50-60 super-stations, all to be interlinked by main transmission lines. The programme of standardization will make uniform the voltage, and will diminish the number of patterns of fittings and utilities, and so will lower both production costs and selling prices. These obvious economies and advantages are but a fraction of those which could be cited, but which are less obvious, for manufacturing enterprises of almost every description would be advantaged, and coal would be more economically used. The saving in coal alone will amount to about 60 million tons a year, or about one-fourth the present tonnage, when the new scheme is working fully.

7—Personnel Research

The scientific efforts being made to relate or join happily the job and the man have illustration in what is being done by the Western Electric Co. of the United States. This company has about 45,000 employees, and acts as the supply agent for the Associated Telephone Companies of the Bell System. The Western Electric Co., like all other trading companies with the right point of view, is anxious to improve the quality of its product, reduce its operating costs, eliminate waste, improve its service, and increase its turnover and its net profits. All of these objects are identified inseparably with the human factor, and so personnel research with this company ranks in importance with its other kinds of research, namely, research in chemistry, physics, metallurgy and mathematics.

The range of personnel research takes in—

1—*Employment.*

Investigations are made—

A—To acquire data concerning the labor supply.
B—Conditions affecting employment.
C—Why applicants are not accepted for employment.
D—Reasons for employees leaving the company.
E—The suitability of applicants for vacant jobs.

2—*The progress of Employees.*

Records are kept of employees' progress, and plans are formulated for up-grading, transferring, and promoting employees.

3—*Health and Study.*

The research work aims to—

A—Eliminate industrial hazards.
B—The placing of employees in occupations in relation to their physical fitness.
C—Eliminate sickness and absence.

4—*Employees' Service.*

Here the aim is to encourage employees to participate in stock ownership, and to make them beneficiaries under profit-sharing and benefit schemes.

5—*Compensation.*

The interests of the management is given to such matters as—

A—Paying employees full market rates of pay.
B—Advancing wages and salaries independently of the employees' initiative.
C—Payment for over-time work.

This outline of how personnel research is being employed in business is suggestive of the new spirit of cordiality, co-operation, oneness and equality which is finding its way surely, even if slowly, in modern industry. Management is ever moving downwards—in the direction of the worker or employee. Yesterday's autocracy and aristocracy in management are steadily being replaced by democracy.

8—H. M. Government and Business Research

Notable examples of research as applied to the affairs of business are the two missions sent by the London "Daily Mail" to foreign countries—the one to the United States to discover the secret of high wages, the other to the Ruhr to investigate German methods of coal production. Of similar character was the private enterprise of those two young British engineers, Messrs. Austin and Lloyd, whose findings are contained in their admirable book, "The Secret of High Wages."

Numerous research investigations into the affairs of business have been made by our Government into matters pertaining to markets and marketing, food supply and distribution, the coal industry, and industrial relations. The reports of the Government are available through H. M. Stationery Office, and those concerned with the advocacy and practice of business research will find much to cheer and inform them by a study of these Government reports.

One of the most recent of these reports is that entitled "A Survey of Overseas Markets," a publication of nearly 500 pages. Another recent publication is entitled "A Survey of Industrial Relations." This latter book was born of the terms of reference given to the Committee of Industry and Trade by the late Socialist Government, namely "to inquire into the conditions and prospects of British Industry and Commerce." In this report the research worker will find information pertaining to—

The conditions under which our people earn their living.

SOME PAPER MILL USERS OF

Badenhausen Boilers

Superheaters :: Preheaters

Geo. F. Hardy, Consulting Engineer, New York
For Southern Paper Co., two orders, total 4700 H.P.
For St. Croix Paper Co. ..... 1200 H.P.
For Brown Paper Mill Co. ..... 3430 H.P.
Central Paper Co., Muskegon, Mich., four orders, total ..... 3100 H.P.
Philadelphia Paper Mfg. Co., Phila., three orders, total ..... 2400 H.P.
Jessup & Moore Paper Co., Phila., four orders, total ..... 4750 H.P.
Ontario Paper Co., Ltd.
For Daily Newspaper Co., North Tonawanda, N. Y. ..... 2034 H.P.
Filer Fibre Company, Filer City, Mich. ..... 1500 H.P.
John Lang Paper Co., Philadelphia, Pa..... 416 H.P.
Bayless Manufacturing Corp., Austin, Pa..... 1300 H.P.
Northern Board & Paper Co., San Francisco, Cal., two orders, total ..... 400 H.P.
Crown Willamette Paper Co., San Francisco, Cal., two orders, total ..... 750 H.P.
Delaware Hard Fibre Co., Wilmington, Del., two orders, total ..... 920 H.P.
Kieckhefer Container Co., Delair, N. J. ..... 1800 H.P.

Badenhausen Corporation

Reg. U. S. Pat. Off.
GENERAL OFFICE, 1011 CHESTNUT ST.
PHILADELPHIA, PA., U. S. A.

120 Broadway, New York — 211 Tramway Bldg., Denver
Reibold Bldg., Dayton, O. — 513 House Bldg., Pittsburgh
1019 Guardian Life Bldg., St. Paul

West Virginia Pulp and Paper Company

Manufacturers of

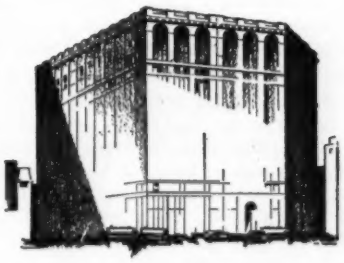
SUPERCALENDERED
and
MACHINE FINISHED BOOK
and LITHOGRAPHIC
PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers.

also

Bleached Spruce Sulphite and Soda, Kraft Pulp

200 Fifth Avenue, New York — 732 Sherman Street, Chicago
508 Market St., San Francisco, Cal.
122 East 7th St., Los Angeles, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.



Buyers flock to 200 Fifth Avenue

famous throughout the mercantile world

From every section of America, and from foreign countries, buyers come to the Fifth Avenue Building. Because in this building, on one buying trip, they can fill the greater part of their seasonal requirements. The offices and display rooms of leading manufacturers are to be found here. Men's wear, women's wear, fabrics, gloves, gifts, toys, novelties, pottery, paper and kindred lines are represented.

The Fifth Avenue Building is accessible from any part of the city. Buses and surface cars pass the door. Two elevated lines are nearby. It is ten minutes by subway from the Pennsylvania Station, thirteen from Grand Central. It is a few minutes from the shopping district in one direction, from the financial district in another.

THE FIFTH AVENUE BUILDING

Broadway and Fifth Avenue, at Madison Square, New York

"More than an office building"

The distribution of employment among the different industries.
Wages and hours, and how they compare with those in other lands, and what bearing they have on costs of production.
Profit-sharing schemes and welfare work.
And so on.

The report shows that there are a million more workers at the age of 45 in this country to-day than there were before the war; that while the wages of unskilled workers have advanced by over 100 per cent, those of skilled workers have increased by no more than 60 per cent, that the real wages obtained in this country average far higher than those in Germany, Belgium, Italy, or France, while the number of hours of work is fewer; that, despite many and serious adversities, we are more than holding our share of the world's trade; and that the outlook is really encouraging.

Another phase of business research as conducted by our Government is the census of production, which, alas! is a phase of research not viewed with whole-hearted favor by many of our manufacturers.

A highly interesting phase of research work in which the Government has played a part is issued by the Industrial Fatigue Research Board and the National Institute of Industrial Psychology. This report has much to say on the subject of vocational guidance, and tells of what is being done to discover the true bent of a child's character and talent, and to guide it into the most appropriate occupations.

The growing use of psychology in the affairs of business is a subject of fascinating interest. Psychology is a large contributor to the forces at work to economize human labor and to give human labor maximum rewards.

Thus it will be perceived how the practice of research as applied to the affairs of business is and can be employed for the conservation of money, time and labor, and for giving money, time and labor enhanced rewards.

The spur of business research is competition—the struggle to survive, and its incentive is profit.

Champion Paper Co. Makes Improvements

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., September 4, 1928.—The new addition to the Champion Paper Company on which work was started recently is rapidly taking shape. The St. Regis Paper Company under whose direction the work is being done has a force of sixty men employed on the addition.

The original plans for the new structure, outlined in PAPER TRADE JOURNAL recently, have undergone slight changes. The location of the building has been changed so that instead of running one way on the lot it has been decided to parallel the main floor of the Champion Company's machine room. The plan as at present outlined calls for a building 230 feet long and 100 feet wide. It will extend over the present canal which runs from the paper plant to the river. About 50 feet of the new building will be over the canal and this portion will rest on cement walls on the banks of the canal. The main floor of the building will be on the ground level and a basement will extend for about one-third the length of the plant. To make room for the new structure it was necessary to move the bridge crossing the canal in the rear of the paper mill.

A new railroad siding which is an important item in the expansion plans for the local mill is nearing completion. The grading has been finished and part of the track laid. A concrete storehouse, stockrooms and office have already been finished. The construction work is under the direction of Charles Fielding, engineer for the St. Regis Paper Company.

The new plant which will be completed about November 1 will manufacture kraft paper bags and will employ between 100 and 125 hands, mostly women.

Dennison To Open Branch in Chicago

FRAMINGHAM, Mass., September 10, 1928.—The Dennison Manufacturing Company, operating plants in Framingham and Marlboro, will open a branch plant in Chicago for the making of shipping tags. Complete details were given out at the Framingham office, when it was announced that two carloads of machinery was being shipped to Chicago.

This step has been considered by officials of the Dennison Company for several months and the announcement did not come as a surprise. The opening of the Chicago branch does not mean that work in the Marlboro plant will be curtailed in any way. The products made at the Windy City will be entirely different from that of the Marlboro plant.

The announcement of the change as made public follows:

"Two carloads of machinery and equipment were shipped Wednesday by the Dennison Mfg. Co. to Chicago, where a branch factory for the manufacture of shipping tags is to be opened.

"About 6,000 square feet of floor space has been leased and the tag machines will be set up during the coming month. It is expected that production will begin about Oct. 1.

"The establishment of a branch factory in Chicago was caused by the increase in demands for service from that section and these demands can, of course, be much more promptly met by having manufacturing facilities located there.

"W. F. Wentworth, manager of the tag division of the company, will leave for Chicago next week to take charge of the necessary arrangements for the opening of the plant.

"Allan Gould, of the Engineering division, will have charge of setting up the machines. This plant, which will operate under the general direction of the Framingham factory, will be in charge of Thomas F. Foley, as foreman."

Program for Mill and Merchant Conference

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., September 11, 1928.—The sixth annual Mill and Merchant conference of the Crocker-McElwain Company and the Chemical Paper Manufacturing Company will be held at the Hotel Nonotuck September 24-25. Paper merchants from all parts of the country who carry the products of the Associated Mills will assemble in the dining room the morning of the 24th for breakfast, after which Clifton A. Crocker, of the companies, will open the conference.

Jesse E. Sheldon, of the Sheldon Transfer Company, will read a paper on "Shipping Paper with Speed and Economy."

E. C. Tucker, vice president of the Crocker-McElwain Company, will talk on "Specialties at Our Two Mills."

W. E. Dunbar, advertising manager of the Associated Mills, will read a paper on "Advertising That Makes the Sales Boat Go."

The morning session will close with a discussion on "The Merchandising of Paper," led by Walter E. Perry.

After a buffet luncheon the afternoon will be devoted to departmental meetings of agents carrying the following lines: Interwoven Covers, Doe Skin Paper Covers, International Covers and Certificate Bond.

Plans for the 1929 advertising will be outlined at these meetings. After breakfast on the next morning departmental meetings will be resumed and luncheon will follow at the Mt. Tom Golf Club and the afternoon devoted to golf.

How Powdered Coal Stands Today

The Combustion Engineering Corporation, of 200 Madison Avenue, New York, has just published a reprint of a technical article entitled "How Powdered Coal Stands Today," by Henry Kreisinger, Research Engineer of the organization. In this article such questions as methods of firing, furnace design, rates of combustion and removal of ash, are discussed comprehensively. Copies of this reprint will be sent on request to those interested by the Combustion Engineering Corporation.

BOLTON QUALITY

JOHN W. BOLTON & SONS, INC.

EAGLE KNIFE & BAR WORKS

Lawrence, Mass.

The only firm making KNIVES for every machine from wood pile to finishing room.

It's the KNIVES that do the work!

Prompt deliveries made from stocks in
NEW YORK
BOSTON
PHILADELPHIA
CHICAGO

TRADE MARK

PAR
In Dyestuffs

As every golfer knows par is a standard of excellence. It is a good term to apply to Heller & Merz dyestuffs. They are par dyestuffs because they represent the excellence which exacting users demand.

Heller & Merz service is just as good. Ask us about both.

The HELLER & MERZ COMPANY
505 Hudson St., New York

Boston	Chicago	Philadelphia
287 Atlantic Ave.	146 W. Kinzie St.	114 Market St.

Springfield, Mass.
24 Lester Street

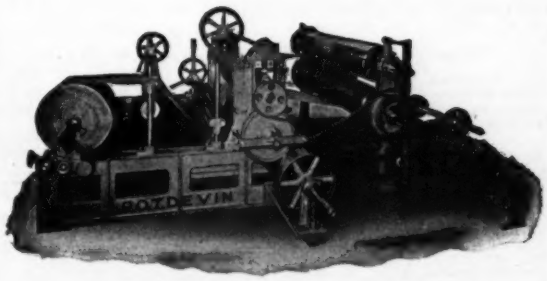
Factory—NEWARK, N. J.

POTDEVIN

PAPER WAXING MACHINERY

Three Widths—52" - 64" - 80"

LIGHT OR HEAVY COATING
WET OR DRY WAX
ONE OR BOTH SIDES



POTDEVIN MACHINE CO.

1223 38th Street, Dept. 4, Brooklyn, N. Y., U. S. A.
Phones: Windsor 1700, 1701, 1702

WET FELTS for TISSUE MACHINES

Free Running and Long Life

THE WATERBURY FELT COMPANY
SKANEATELES FALLS, N. Y.
Felts and Jackets—That Serve and Satisfy

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 8, 1928

SUMMARY

Cigarette paper .....91 cs.
Wall paper .....8 bls., 39 cs.
Paper hangings .....19 bls., 2 cs.
News print .....474 rolls, 30 bls.
Printing paper .....37 cs.
Wrapping paper .....260 rolls, 10 bls., 12 cs.
Packing paper .....6 bls., 44 cs.
Filter paper .....59 bls., 6 cs.
Drawing paper .....1 cs.
Stencil paper .....30 cs.
Grease proof paper .....19 cs.
Metal coated paper .....6 cs.
Surface coated paper .....81 cs.
Gold coated paper .....12 cs.
Litho paper .....50 cs.
Photo paper .....4 cs.
Colored paper .....16 cs.
Writing paper .....1 cs.
Note paper and envelopes .....7 pkgs.
Envelopes .....2 cs.
Bristol boards .....2 cs.
Tissue paper .....4 cs.
Decalcomania paper .....31 cs.
Crepe paper .....9 cs.
Copy paper .....25 cs.
Cover paper .....1 cs.
Miscellaneous paper .....291 rolls, 95 bls., 141 cs.

CIGARETTE PAPER

Chasta Corp., Takaoka Maru, Kobe, 2 cs.
Japan Paper Co., Suffren, Havre, 3 cs.
Liggett & Myers Tobacco Co., Suffren, Havre, 20 cs.
Standard Products Corp., Suffren, Havre, 40 cs.
P. J. Schweitzer, Pr. Adams, Marseilles, 26 cs.

WALL PAPER

American Exchange Irving Trust Co., A. Ballin, Hamburg, 13 cs.
J. E. Bernard & Co., A. Ballin, Hamburg, 1 cs.
Globe Shipping Co., A. Ballin, Hamburg, 1 cs.
A. C. Dodman, Jr., Inc., Celtic, Liverpool, 2 bls.
A. C. Dodman, Jr., Inc., Homeric, Southampton, 1 cs.
F. J. Emmerich, Orinoco, Hamburg, 4 cs.
Globe Shipping Co., Orinoco, Hamburg, 6 bls.
American Exchange Irving Trust Co., Orinoco, Hamburg, 22 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnewaska, London, 12 bls., 2 cs.
A. C. Dodman, Jr., Inc., Carinthia, Liverpool, 7 bls.

NEWS PRINT

O. Ray, Gripsholm, Gothenburg, 129 rolls, 30 bls.
Guaranty Trust Co., Gripsholm, Gothenburg, 178 rolls.
Perkins Goodwn & Co., Karlsruhe, Bremen, 102 rolls.
F. Henjes, Jr., Inc., Orinoco, Hamburg, 65 rolls.

PRINTING PAPER

Judson Freight F'd'g Co., Sierra Cordoba, Bremen, 18 cs.
Kupfer Bros., Sierra Cordoba, Bremen, 12 cs.
J. J. Shore, Sierra Cordoba, Bremen, 7 cs.

WRAPPING PAPER

Birn & Wachenheim, A. Ballin, Hamburg, 10 bls.
Blauvelt, Wiley Paper Manfg. Co., Gripsholm, Gothenburg, 256 rolls.
Birn & Wachenheim, Pennland, Antwerp, 12 cs., 4 rolls.

PACKING PAPER

W. J. Honan Sierra Cordoba, Bremen, 6 bls.
International F'd'g Co., Orinoco, Hamburg, 8 cs.
Haule Wax Paper Manfg. Co., Orinoco, Hamburg, 36 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Tuscania, London, 6 cs.
A. Giese & Son, Homeric, Southampton, 59 bls.

DRAWING PAPER

Kauffel & Esser Co., Tuscania, London, 1 cs.

STENCIL PAPER

Arlac Dry Stencil Co., A. Ballin, Hamburg, 30 cs.

GREASE-PROOF PAPER

Central Union Trust Co., A. Ballin, Hamburg, 19 cs.

METAL COATED PAPER

Universal Carloading Co., A. Ballin, Hamburg, 6 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Pennland, Antwerp, 81 cs.

GOLD COATED PAPER

F. Murray Hill Co., Columbus, Bremen, 12 cs.

LITHO PAPER

Arnhold & Co., Inc., Chinese Prince, Hong Kong, 25 cs.
J. H. & G. B. Siebold, Chinese Prince, Hong Kong, 25 cs.

PHOTO PAPER

J. J. Gavin & Co., Carinthia, Liverpool, 4 cs.

COLORED PAPER

J. J. Shore & Co., Columbus, Bremen, 9 cs.
S. Gilbert, Columbus, Bremen, 7 cs

WRITING PAPER

American Express Co., Sierra Cordoba, Bremen, 1 cs.

NOTE PAPER AND ENVELOPES

The Eleto Co., Carinthia, Liverpool, 7 pkgs.

ENVELOPES

H. Reeve Angel & Co., Inc., Tuscania, London, 2 cs.

BRISTOL BOARDS

Keuffel & Esser Co., Tuscania, London, 2 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., Carinthia, Liverpool, 3 cs.
Whitfield Paper Works, Takaoka Maru, Kobe, 1 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Carinthia, Liverpool, 5 cs. (simplex), 16 cs. (duplex).
C. W. Sellers, Columbus, Bremen, 2 cs.
C. W. Sellers, Sierra Cordoba, Bremen, 8 cs.

CREPE PAPER

J. Beckhard & Co., Columbus, Bremen, 9 cs.

COPY PAPER

Whitfield Paper Works, Takaoka Maru, Kobe, 25 cs.

COVER PAPER

International F'd'g Co., Orinoco, Hamburg, 1 cs.

MISCELLANEOUS PAPER

W. Sheldon & Co., Minnewaska, London, 2 cs.
Wilkinson Bros. & Co., Inc., Gripsholm, Gothenburg, 35 cs.
Japan Paper Co., Gripsholm, Gothenburg, 8 cs.
Schoeller Hoersch Schmidt Corp., Waaldyk, Rotterdam, 10 cs.
Judson Freight F'd'g Co., Pennland, Antwerp, 5 cs.
M. M. Cohen, Lutzow, Bremen, 291 rolls, 71 bls.
R. F. Downing & Co., Ile de France, Havre, 5 cs.
Coty, Inc., Ile de France, Havre, 6 cs.
Standard Products Corp., Ile de France, Havre, 50 cs.
L. Mandell & Co., Ile de France, Havre, 24 bls.
International Souvenir Corp., Pr. Adams, Marseilles, 20 cs.

RAGS, BAGGING, ETC.

National City Bank, A. Ballin, Hamburg, 21 bls. rags.
Whaling Waste Products Corp., A. Ballin, Hamburg, 45 bls. jute waste.
Manufacturers Trust Co., A. Ballin, Hamburg, 13 bls. rags.
A. W. Fenton, Inc., A. Ballin, Hamburg, 101 bls. rags.
Chase National Bank, A. Ballin, Hamburg, 53 bls. flax waste.
T. D. Downing & Co., Transylvania, Glasgow, 69 bls. paper stock.
Brown Broes. & Co., Transylvania, Glasgow, 32 bls. new cuttings.
M. Snederker Corp., Transylvania, Glasgow, 37 bls. thread waste, 29 bls. cuttings.
A. H. Searle, Inc., Transylvania, Glasgow, 98 bls. paper stock.
A. H. Searle, Inc., Tuscania, London, 181 bls. rags.
Equitable Trust Co., Carinthia, Liverpool, 12 bls. rags.
E. Mayer, Karlsruhe, Bremen, 15 bls. rags.
A. W. Frenton, Inc., Lutzow, Bremen, 9 bls. rags
Van Oppen & Co., Lutzow, Bremen, 113 bls. rags.
Guaranty Trust Co., Celtic, Liverpool, 300 bls. rags.
Darmstadt Scott & Courtney, Eastern Dawn, Antwerp, 69 bls. flax waste, 19 bls. rags.
G. W. Millar & Co., Eastern Dawn, Antwerp, 225 bls. bagging.
Castle & Overton, Inc., Eastern Dawn, Antwerp, 50 bls. bagging.
Castle & Overton, Inc., Patagonier, Antwerp, 56 bls. rags.
Union Bank & Trust Co., Blydendyk, Rotterdam, 119 bls. bagging.
J. Rosenberg, Blydendyk, Rotterdam, 157 bls. bagging.
Chemical National Bank, Sierra Cordoba, Bremen, 43 bls. rags.
Bank of New United States, Sierra Cordoba, Bremen, 69 bls. rags.
Chase National Bank, Orinoco, Hamburg, 276 bls. rags.
American Exchange Irving Trust Co., Orinoco, Hamburg, 92 bls. flax waste.
Bank of New York, Alberta, Venice, 183 bls. rags.
C. B. Richard & Co., Alberta, Trieste, 116 bls. rags.
Guaranty Trust Co., Alberta, Bari, 161 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, ——, 55 bls. rags.
E. J. Keller Co., Inc., Dresden, 169 bls. bagging.
E. J. Keller Co., Inc., Sarcoxie, 54 bls. bagging.
E. J. Keller Co., Inc., Estonia, ——, 166 bls. rags.
E. J. Keller Co., Inc., Thuringia, ——, 21 bls. rags.
E. J. Keller Co., Inc., Carlier, ——, 39 bls. new cuttings.
E. J. Keller Co., Inc., Half Moon, ——, 108 bls. rags, 62 bls. bagging.

OLD ROPE

American Exchange Irving Trust Co., Lutzow, Bremen, 24 bls., 70 coils.
Anglo South American Trust Co., Celtic, Liverpool, 77 coils.
Furness Withy & Co., London Mariner, London, 168 coils.
Banco Com'l Italiane Trust Co., Alberta, Trieste, 57 rolls.
Brown Bros. & Co., Alberta, Venice, 33 coils.

CASEIN

Karolith Corp., Suffren, Havre, 335 bags.
Atterbury Bros., Inc., Sardinian Prince, B. Aires, 834 bags, 50,040 ks.
T. M. Duche & Sons, Sardinian Prince, 417 bags, 25,050 ks.

WOOD PULP

Atterbury Bros., Inc., Oscar II, Oslo, 750 bls. wood pulp.
O. E. Kiaer, Oscar II, Oslo, 1,000 bls. sulphite.
Scandinavian Pulp Agency, Inc., Gripsholm, Gothenburg, 1,524 bls. kraft pulp.
Johanson Wales & Sparre, Inc., Gripsholm, Gothenburg, 299 bls. dry soda pulp.
E. M. Sergeant & Co., Gripsholm, Gothenburg, 299 bls. dry soda pulp, 200 bls. sulphite.
J. Andersen & Co., Maine, Greaker, 2,660 bls. sulphite.
O. E. Kiaer, Maine, Greaker, 1,125 bls. sulphite.
Thavenot S. S. Co., H. Arp, St. Albans, 1,050 cords pulp.
Perkins Goodwin & Co., Casper, Obbola, 8,400 bls. wood pulp, 1,200 tons.
M. Gottesman & Co., Inc., Alberta, Sebenico, 1,200 bls. wood pulp.

WOOD PULP BOARDS

Lagerloef Trading Co., Sierra Cordoba, Bremen, 35 bls.
Wilkinson Bros. & Co., Inc., Gripsholm, Gothenburg, 51 rolls.

WOOD PULP WADDING

Birn & Wachenheim, Blydendyk, Rotterdam, 50 bls.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 8, 1928

O. E. Kiaer, Maine, Oslo, 2,410 bls. sulphite.
Bank of N. Y. & Trust Co., Maine, Oslo, 570 bls. sulphite.
Atterbury Bros., Inc., Sardinian Prince, B. Aires, 834 bags casein, 50,040 ks.
1st National Bank of Boston, Sardinian Prince, B. Aires, 1,417 bags casein, 85,020 ks.
J. Andersen & Co., Alberta, Trieste, 2,565 bls. wood pulp.
M. Gottesman & Co., Inc., Alberta, Sebenico, 3,600 bls. wood pulp.
E. J. Keller Co., Inc., Natirar, ——, 133 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 8, 1928

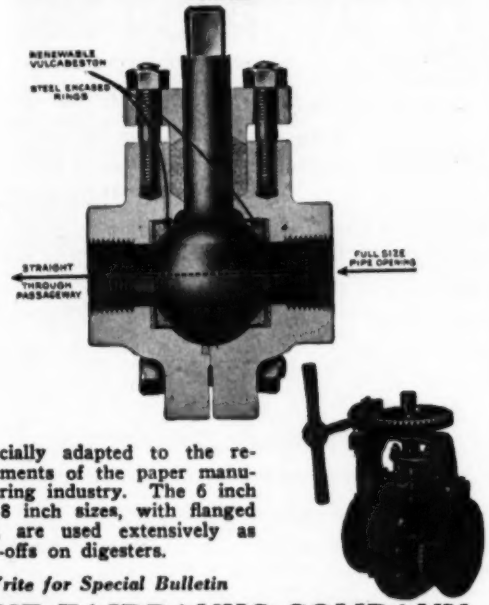
Melrose Paperstock Co., Waaldyk, Rotterdam, 388 bls. rags.
P. Berlowitz, Waaldyk, Rotterdam, 167 bls. rags.
W. J. Honan, Waaldyk, Rotterdam, 49 cs. printing paper.
Katzenstein & Keene, Inc., Waaldyk, Rotterdam, 200 bls. rags.
W. J. Jones & Co., Waaldyk, Rotterdam, 6 rolls surface coated paper.
Robert Blank, Waaldyk, Rotterdam, 107 bls. rags.
Castle & Overton, Inc., Waaldyk, Rotterdam, 1,080 bls. wood pulp.
J. M. Hagy Waste Works, Waaldyk, Rotterdam, 123 bls. rags.
J. A. Steer & Co., Waaldyk, Rotterdam, 40 bls. old rope.
American Trading Co., Waaldyk, Rotterdam, 176 bls. rags.

(*Continued on page 72*)

FAIRBANKS' "SPHERO"

The Perfect "Blow-Off" Valve

Patented



Especially adapted to the requirements of the paper manufacturing industry. The 6 inch and 8 inch sizes, with flanged ends, are used extensively as blow-offs on digesters.

Write for Special Bulletin

THE FAIRBANKS COMPANY

BOSTON NEW YORK PITTSBURGH

Factory: Binghamton, N. Y.

Distribution in ALL Principal Cities

Starch—

A SIMPLE change in the manufacturing process often results in a pronounced decrease in cost of production.

Paper Mills use Starch for sizing to produce better and stronger sheets with lower cost of manufacture.

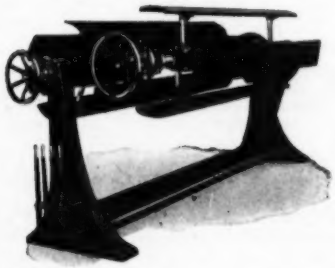
Our SPECIAL PAPER brand for beater-sizing increases strength of sheet and gives improved finish.

Our FOX HEAD brand for top-sizing is more economical than all glue-size.

CORN PRODUCTS REFINING COMPANY

17 Battery Place, New York City

H·S MACHINE CO.



IMPROVED AUTOMATIC COLLAPSING REEL

One of several designs used by Paper Manufacturers and converters. We design and manufacture Toilet Winders, Napkin Folders, Crepe Machines, Package Presses and other equipment for the Paper Converter and manufacturer. Write for catalogue.

Hudson-Sharp Machine Co.

GREEN BAY, WISCONSIN

Chicago Office: 574 Wrigley Bldg.

Manufacturers and Designers of Special Machinery

FINE FACE FELTS FOR FINE PAPERS

ENGLISH or BAKER WOVEN

Absolutely leave no felt marks in paper. TRIUNE Three Ply Felts insure large production. Made from

60" TO 214" WIDE

FITCHBURG DUCK MILLS

FITCHBURG, MASS.

82 Years Making Fine Face Felts for papermakers

Imports of Paper and Paper Stock

(*Continued from page 70*)

Union National Bank, London Mariner, London, 81 bls. rags.
J. B. Moors & Co., London Mariner, London, 190 bls. rags.
Paper Service Co., London Mariner, London, 3 rolls paper.
Amtorg, Ltd., Maine, Copenhagen, 303 bls. rags.
Banque Com'l pour L'Europe, Maine, Copenhagen, 520 bls. rags.
F. Whitaker, Maine, Copenhagen, 10 bls. rags.
O. E. Kiaer, Maine, Oslo, 600 bls. sulphite.
E. J. Keller Co., Inc., Vincent, ——, 75 bls. rags.
E. J. Keller Co., Inc., Carenco, ——, 95 bls. rags, 97 bls. old rope.
E. J. Keller Co., Inc., Havelland, ——, 223 bls. rags.
E. J. Keller Co., Inc., Hudson, ——, 80 bls. rags.
E. J. Keller Co., Inc., Hagen, ——, 164 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 8, 1928

National City Bank, Waaldyk, Rotterdam, 778 bls. rags.
Castle & Overton, Inc., Waaldyk, Rotterdam, 900 bls. wood pulp.
E. J. Keller Co., Inc., Waaldyk, Rotterdam, 600 bls. wood pulp.
A. W. Fenton, Inc., Eastern Dawn, Antwerp, 45 bls. rags, 52 bls. bagging.
Johanson Wales & Sparre, Inc., Maine, Copenhagen, 715 bls. wood pulp.
Congoleum Nairn Co., Maine, Copenhagen, 173 bls. rags 161 bls. bagging.
E. J. Keller Co., Inc., Gaasterdyk, ——, 600 bls. wood pulp.

NEWPORT NEWS IMPORTS.

WEEK ENDING SEPTEMBER 8, 1928

Castle & Overton, Inc., Waaldyk, Rotterdam, 780 bls. wood pulp.
British American Tobacco Co., Eastern Dawn, Antwerp, 111 rolls wrapping paper.

NORFOLK IMPORTS

WEEK ENDING SEPTEMBER 8, 1928

Darmstadt Scott & Courtney, Waaldyk, Rotterdam, 43 bls. bagging.
N. Y. Trust Co., Waaldyk, Rotterdam, 585 bls. bagging.
British American Tobacco Co., Eastern Dawn, Antwerp, 20 cs. cigarette wrappers.
Darmstadt Scott & Courtney, Eastern Dawn, Antwerp, 77 bls. rags.

PORTLAND IMPORTS

WEEK ENDING SEPTEMBER 1, 1928

Lagerloef Trading Co., Bird City, Raumo, 1,859 bls. wood pulp, 316 tons.
The Borregaard Co., Inc., Bird City, Gothenburg, 1,500 bls. wood pulp, 304 tons.
Waterfalls Paper Mills, Bird City, Gothenburg, 500 bls. wood pulp, 101 tons.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 1, 1928

Scandinavian Pulp Agency, Inc., Korsholm, Gothenburg, 3,048 bls. kraft pulp.
Scandinavian Pulp Agency, Inc., Korsholm, Gothenburg, 399 bls. sulphite pulp.
Patterson Wilde & Co., Korsholm, Gothenburg, 19 bls. pulp boards.
Johanson, Wales & Sparre, Inc., Korsholm, Gothenburg, 250 bls. sulphate pulp.
Price & Pierce, Ltd., Korsholm, Gothenburg, 200 bls. wood pulp.
A. Bloch & Co., Coahoma County, Antwerp, 67 bls. rags.
Geo. Bird & Co., Coahoma County, Antwerp, 57 coils old rope.

Sees $6 a Share on Kimberly-Clark

Earnings of the Kimberly-Clark Corporation should run in the neighborhood of $6 per share for 1928, according to F. J. Sensenbrenner, president. In 1927 the company earned a net profit after depreciation, interest and taxes, of $2,317,367, or the equivalent of $4.73 a share, on the 490,000 shares of no par value common stock now outstanding.

Mr. Sensenbrenner stated that he anticipates no falling off in profits during the remainder of the year and believes that 1928 earnings will establish a new high record.

These figures do not include any profits from the Spruce Falls Power and Paper Company, Ltd., in which a majority interest is owned by Kimberly-Clark and which is now on a profit making basis.

"Our gross is about the same as last year," said Mr. Sensenbrenner, "but net is moderately higher. The gross volume is holding up despite recent reduction in book paper prices. It has always been our policy, when we considered our costs and market conditions justified it, to voluntarily reduce our selling prices. As a consequence our price curve has been steadily downward since 1921, but our profit curve has been consistently upward. Even at the present low selling price we show a very satisfactory profit, and the earnings available to common stock are well ahead of last year at this period.

"This is partially due to our growing specialty business, notably 'Kotex,' but it is principally a reflection of the increasing economy and efficiency in our manufacturing operations. This is the direct result of the substantial expenditures made in the last few years to modernize our plants."

Finland's Paper Exports Increase

WASHINGTON, D. C., September 12, 1928.—Exports of paper and pulp from Finland during the month of July were valued at a total of approximately $3,900,960 compared with $3,331,440, in the preceding month and $3,381,540 during July of last year according to Commercial Attache Lyon at Helsingfors.

Exports during the first seven months of this year reached a total value of approximately $25,785,000 as against $23,549,000 during the corresponding period of last year. The principal increases occurred in shipments of ground wood, which rose from 47,590 metric tons to 74,803 tons; chemical pulp which rose from 193,664 tons to 256,232 tons, and news print which rose by approximately 10,000 tons. Exports of wrapping paper were also larger.

Synchronous Motors

A large, well-illustrated book on the subject of synchronous motors is being distributed by the Electric Machinery Manufacturing Company, of Minneapolis, specialists in the manufacture of this type of electrical equipment. The company has felt for a number of years that the books already in circulation were far too technical for executives and plant managers, while there was nothing available on the application of these motors.

"The most Efficient Drive in Industry," as the new book is called, contains 50 pages and 85 illustrations. The advantages of the synchronous motor in comparison with other types, the theory of its operation, and its development to present high efficiency are well covered, while the last half of the book is devoted to scores of applications.

The refrigerating, pulp and paper, rubber, cement and iron and steel industries are given special attention, while the brass and copper, coke and gas, lumber, flour, mining and smelting fields receive valuable discussion. Offices of the Electric Machinery Manufacturing Company in various large cities now have a supply or copies can be had free by writing to the main office at Minneapolis.

New Brunswick Has Good Season

Experts who have covered much of the forested area of New Brunswick this year report that 1928 has been another year of marked growth in the woods. The growth is noticeable in all sections but particularly in young growth. Actual measurement in some cases showed a growth of twenty-two inches in the terminal buds on fir, and other species grew in proportion. The period of growth is not yet over and fir terminal buds will show a good two feet increase in length for the season.

The chief cause for this growth has been the steady rains, the forest never having suffered from lack of moisture. Conditions of temperature also were extremely favorable to growth of coniferous trees.

An unusual feature of the growing season of 1928 was the continuation of the season favorable to pulp-peeling long after the time which usually is considered the end of the period. Unfortunately the depressed condition of demand for pulpwood did not permit the pulp camps to take great advantage except on some of the smaller operations.

The present year is the fourth in succession in which conditions of growth have been remarkably good.

END-OF-GRAIN SUCTION BOX COVERS

A Trial Installation Will Demonstrate Operative Economy and Better Product.

This improvement consists of 2 aluminum side-rails, which are permanently screwed to top flange of the suction box. Between these rails are diagonally inserted wooden sections of select green Vermont maple, with the grain of wood UPRIGHT. Write for prices and list of prominent users.

EMERSON MANUFACTURING COMPANY, LAWRENCE, MASS.

H. S. TAYLOR
Consulting Engineer

Member Am. Soc. C. E.—Member Am. Soc. M. E.
Member Eng. Inst., Can.—Member A. I. E. E.

PULP, PAPER, AND FIBRE MILLS
HYDRO-ELECTRIC AND STEAM POWER PLANTS
PLANS-SPECIFICATIONS-EVALUATIONS
REPORTS - CONSULTATIONS

Jefferson St. Arcade, Dayton, O. — **Guarantee Bldg., Montreal, P. Q.**

HARDY S. FERGUSON
CONSULTING ENGINEER

200 Fifth Avenue, New York City

MEMBER AM. SOC. C. E.
MEMBER AM. SOC. M. E.
MEMBER ENG. INST. CAN.

PAPER PULP AND FIBRE MILLS INCLUDING BUILDINGS AND COMPLETE MECHANICAL EQUIPMENT
WATER POWER DEVELOPMENT
DAMS, STORAGE RESERVOIRS and OTHER HYDRAULIC STRUCTURES
STEAM PLANTS

EXAMINATION
REPORTS
ESTIMATES OF COST
VALUATIONS
DESIGNS
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Pulp and Paper Mills, Power Plants, Chemical Plants

Engineering Design
Construction Supervision
Mechanical Equipment
Surveys
Investigations
Management
Process Development
Waste Utilization
Fuel Economy
Valuations

Arthur D. Little, Inc.
Chemists : Engineers : Managers

30 CHARLES RIVER ROAD, CAMBRIDGE, MASS.

V. D. SIMONS
INDUSTRIAL ENGINEER

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A B C, 5th Edition
Bedford McNeill
Western Union
Bentley's

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, September 12, 1928.

Trading in the local paper market was fairly active during the past week and demand for the various grades was encouraging. While production has been maintained in larger volume than last year, the output has been absorbed in a satisfactory manner. The vacation season has practically ended and the sales forces of the leading paper houses are beginning a strenuous campaign for the closing months of the year. Prices are generally holding to schedule and shading is infrequent.

Although production of news print in North America has been curtailed somewhat, stocks in hand are sufficiently large to cope with current demands. The news print market, however, should become more lively in the near future, with the political campaign in full swing and the busy shopping season approaching. Contract prices for the forthcoming year will probably be slightly lower.

Demand for paper board is gradually expanding and production has been keyed to meet prevailing requirements. Prices remain steady and unchanged. The fine paper market is exhibiting a strong undertone and there is a better inquiry for tissuse. Steadiness prevails in the coarse paper market and wrapping paper is moving in excellent volume.

Mechanical Pulp

Conditions in the ground wood market remain decidedly quiet. Most of the business transacted during the past week was along routine lines. Contract withdrawals of mechanical pulp are going forward fairly regularly. Quotations on both domestic and imported ground wood are generally holding to former levels.

Chemical Pulp

Business in the chemical pulp market was moderately active during the past week. Inquiries were fairly numerous and some good orders were reported to have been closed for delivery in the forthcoming year. Bleached sulphite continues to display unusual strength and offerings of both imported and domestic grades are scarce. Prices rule steady to firm, in most instances.

Old Rope and Bagging

Steadiness continues to prevail in the old rope market. Both foreign and domestic manila grades are in excellent request. Prices are holding to previously recorded levels. No radical changes have transpired in the bagging market. Gunny bagging is moving in normal volume and scrap bagging is fairly active. Prices are practically unchanged.

Rags

Mill interest is apparently improving in the domestic rag market. Cotton cuttings are in persistent demand. Mixed rags are moving in greater volume than of late. Prices remain unaltered, except where there has been shading on extra desirable orders. The tone of the imported rag market has improved slightly although the interest in roofing stock has fallen off somewhat. Prices are generally unchanged.

Waste Paper

The paper stock market is in a sound position. The lower grades are in partiuclarly good request from the paper board mills and quotations are firmer. Strictly folded news is in excellent demand and is now selling at from .70 to .75. Ledger stock is quite active but book stock is rather quiet at present. Old kraft machine compressed bales continue in excellent request.

Twine

During the past week, trading in the twine market was mostly along routine lines. Twine manufacturers and dealers are anticipating a busy time during the closing months of the year, in conjunction with the seasonal expansion in the demand for wrapping paper. Prices of the various grades are generally holding to schedule.

Buys Tag Products Co.

PORTLAND, Ore., September 7, 1928.—The Columbia Paper Box Company, George G. Guild, president, has purchased the assets of the Tag Products Company, operating at 86 North Fourth street. A concrete building, 50 x 65 feet, is being constructed adjacent to the Columbia paper plant at East 25th and Holladay streets to house the tag products plant. Additional machinery has been purchased and the new plant will be in operation by September 15. The new division of the paper box works will be known as the Columbia Tag Company, a subsidiary of the Columbia Paper Box Company. The plant will be fully equipped to turn out all sorts of baggage checks, labels, price tickets and miscellaneous requirements in the tag business. Mr. Guild is well known in a business way and also as former president of the Oregon Manufacturers' Association, of which company he was president for three years.

Howard Bond and Ledger in Baltimore

As a result of negotiations recently completed by the Howard Paper Company of Urbana, Ohio, the well known Howard Bond and Howard Ledger will be carried by two of the leading paper houses in Baltimore. The dual agency will consist of B. F. Bond Paper Company and Dobler & Mudge and both merchants will carry complete stocks of these well known and nationally advertised papers. The new agent—Dobler & Mudge—is a pioneer in the Baltimore trade, dating back to Civil War days.

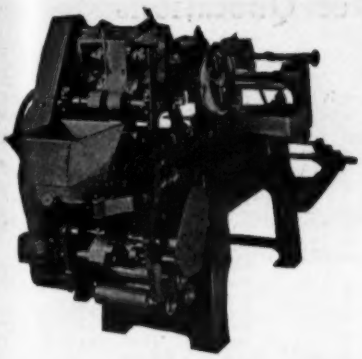
Lewis Dozier Comes to Rhinelander

The management of the Rhinelander Paper Company, manufacturers of glassine and greaseproof papers, announce that Lewis Dozier has accepted the superintendency of its mills at Rhinelander, Wis.

Mr. Dozier comes from a similar position with the Westfield River Paper Company, of Russell, Mass., well known manufacturers of high grade glassine papers. Mr. Dozier is taking over the work of Folke Becker, who is to assume the management soon.

Lumber Trade Active

Remarkable activity is reported in the lumber trade in British Columbia. Following a long period of depression orders are now reported to be coming from the Prairie Provinces in unprecedented volume, and increasing demands from Australia and New Zealand are compensating for the falling off in the Japanese market. Prices have strengthened to a remunerative basis and the outlook is stated to be brighter than it has been for years.



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Special Machinery Designed and Built

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Paper hitherto made without rag stock, can be brought to the high quality goal by the use of Alpha Fibre.

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Ham Feltz says:

"It's been my observin' that the fellow what's been at the game a long time seems to know how to talk a machine into busting up production records with the kind of paper what pleases the boss. I reckon that's the same reason why these Hamilton Felts get rid of so much water—the same men've been makin' 'em for 70 years. It's a case of knowing how."

Hamilton Felts

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, September 12, 1928.

BLANC FIXE.—Conditions in the blanc fixe market are practically unchanged. Demand is fairly active and shipments against contract are moving regularly. The pulp is quoted at $40 per ton, in bulk, and the powder is selling at from 3½ cents to 3⅝ cents a pound, in barrels, at works.

BLEACHING POWDER.—Contract withdrawals of bleaching powder are moving in fair volume. Demand for this product is rather light at present but prices remain steady. Bleaching powder is still quoted at from $2.00 to $2.35 per 100 pounds, in large drums, at works, according to quantity and grade.

CASEIN.—While the casein market is slightly easier, inquiries for future business are fairly numerous. Domestic casein is now selling at from 16 cents to 17 cents a pound, while imported casein is offered at from 16¾ cents to 17 cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is exhibiting a strong undertone. Prices are holding to schedule without difficulty. Solid caustic soda is quoted at from $2.90 to $2.95 per 100 pounds. The flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Demand for china clay is well up to average for the season. Prices remain steady and unchanged. Imported china clay is quoted at from $15 to $25 a ton, ship side. Domestic paper making clay is selling at from $8 to $9 a ton, at mine, and pulverized at from $10 to $12 a ton.

CHLORINE.—Steadiness prevails in the chlorine market. Shipments against standing contracts are going forward at a normal pace. Chlorine is still quoted at 3½ cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 3¾ cents to 4 cents a pound.

ROSIN.—The rosin market is practically unchanged. At the naval stores, the grades of gum rosin used in the paper mills are quoted at from $9.15 to $9.20 per 280 pounds, ex dock, in barrels. Wood rosin is now selling at from $7 to $7.80 per 280 pounds, at southern shipping points.

SALT CAKE.—Manufacturers of salt cake are well sold ahead on contract. Offerings of this product are rather limited and quotations are steady to firm. Salt cake is still quoted at from $15 to $17 a ton, in bulk, at works. Chrome salt cake is selling at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—The soda ash market is in a sound position. Supplies are moving into consumption in satisfactory volume. Prices are generally holding to former levels. Contract quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—No further changes were reported in the starch market during the past week. Contract shipments are moving in a satisfactory manner for the season of the year. Special paper making starch is still selling at $4.07 per 100 pounds, in bags, and at $4.24 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Business in the sulphate of alumina market is fairly good. Prices remain steady and unchanged. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.55 per 100 pounds. The iron free is still selling at from $1.90 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—Some improvement was noticed in the demand for sulphur from the paper mills. Stocks on hand are quite sufficient to take care of prevailing requirements. Prices remain unaltered. Sulphur is selling at from $18 to $19 a ton, in bulk, at mine, on contract orders. The spot quotation is $20 per ton.

TALC.—Production of talc is being maintained in satisfactory volume. Demand for this product is persistent and prices are holding to schedule. Domestic talc is quoted at from $16 to $18 a ton, in bulk, at eastern mines. Imported talc is offered at from $18 to $20 per ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	4.25	@ 4.50
Southern	4.00	@ 4.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

Boards—per ton—		
News	50.00	@52.50
Straw	52.50	@55.00
Chip	47.50	@50.00
Binders' Boards	65.00	@67.50
Sgl. Mla. Ll. Chip	51.00	@53.50
Wood Pulp	80.00	@85.00
Container	67.50	@72.50
85 test Jute Liner	57.50	@60.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	30.00	@31.25
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@29.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.65	@ 4.25
Easy Bleaching	2.70	@ 2.90
No. 1 strong unbleached	2.60	@ 2.70
Mitscherlich unbleached	2.65	@ 3.25
No. 2 strong unbleached	2.50	@ 2.60
No. 1 Kraft	2.60	@ 2.75
No. 2 Kraft	2.40	@ 2.50
Sulphate—		
Bleached	3.75	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.60	@ 2.75
News Sulphite	2.40	@ 2.65
Mitscherlich	3.00	@ 3.70
Kraft (Domestic)	2.70	@ 3.30
Soda Bleached	3.15	@ 3.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.65

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.25	@11.75
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.50	@ 6.25
No. 3 White Linens	4.50	@ 5.00
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 1.90
Lindsay Garments	1.90	@ 2.00
Dark Cottons	1.65	@ 1.75
Old Shapperies	1.55	@ 1.65
New Shapperies	1.50	@ 1.60
French Blues	2.10	@ 2.25

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.60	@ 1.70
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, heavy	1.60	@ 1.65
Bright Bagging	1.60	@ 1.65
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.25	@ 3.50
Domestic	3.25	@ 4.00
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.25	@ 3.50
Hard, white, No. 2	2.50	@ 2.65
Soft, White, No. 1	2.25	@ 2.50
White envelope cuttings	3.25	@ 3.50
Flat Stock—		
Stitchless	1.60	@ 1.70
Overissue Mag.	1.60	@ 1.70
Solid Flat Book	1.45	@ 1.55
Crumpled No. 1	1.10	@ 1.20
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.60	@ 1.75
Manilas—		
New B. B. Chips	.65	@ .75
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.80	@ .85
Container	.70	@ .75
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	1.80	@ 1.90
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.85	@ .95
Strictly Folded	.70	@ .75
No. 1 Mixed Paper	.60	@ .65
Common Paper	.30	@ .35

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OF ABSOLUTE UNIFORMITY

American Made for American Trade

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H. T. BRAND
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Now used in many of largest paper mills

KLONDYKE BRAND
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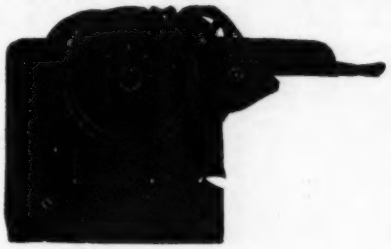
RAG CUTTERS



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MECHANICAL PULP

KRAFT PULP

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The Revolvator used for storing heavy rolls of paper in the plant of one of Chicago's largest printers.

Revolvators for Handling Paper

Handling paper in rolls, flat and boxed can be best accomplished with a Revolvator portable elevator. Many paper mills, warehouses, publishers and printers have found from experience that the Revolvator is the only device for such work. The Revolvator saves labor, does the work faster and safer and is far more economical than any other equipment. Send for descriptive bulletin P T and get the complete story —now.

Portable and Stationary Elevators Liftrucks Storage Racks

REVOLVATOR CO.
357 Garfield Avenue Jersey City, N. J.

Twines

(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

Paper

(F. o. b. Mill)

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	.03¾	@	.04
No. 2 Kraft	.04	@	.04¾
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 Sheet	.07¾	@	.07½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	37.50	@	41.00
Solid News	47.50	@	—
Manila Lined Chip	55.00	@	—
Container Lined—			
(Delivered Central Territory)			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.80	@	2.90
White Env. Cuttings	2.90	@	3.00
No. 1 Soft Shavings	2.50	@	2.60
No. 1 Mixed	1.00	@	1.05
No. 2 Mixed	.90	@	1.00
Ledger & Writings	1.55	@	1.65
Solid Books	1.25	@	1.35
Blanks	1.70	@	1.80
Krafts	1.90	@	2.00
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.90	@	1.00
Folded News (overissue)	.65	@	.75
Old Newspapers—			
No. 1	.65	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.80
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Labe	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.08½	@	.09
Manil Sul., No. 1	.04½	@	.05
Manil No. 2	.04	@	.04½
No. 2 Kraft	.04½	@	.05
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	50.00	@	75.00
News Board	47.50	@	—
Chip Board	42.50	@	45.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	80.00	@	90.00
No. 2, per ton	75.00	@	80.00
Carload lots	65.00	@	75.00
Tarred Felts—			
Regular	53.00	@	55.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.44	@	1.54
Best Tarred, 3-ply	1.93	@	2.08

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Sil. ias, soft	.05	@	.05½
New Unbleached	.10¼	@	.11
Washable	.03½	@	.04
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	—	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.09½
New Black Mixed	.05	@	.05½

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	—	@	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.20	@	3.25
No. 2 Hard White	2.75	@	3.00
No. 1 Soft White	2.40	@	2.50
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.50	@	1.60
No. 1 Books, heavy	1.50	@	1.60
No. 2 Books, light	1.25	@	1.40
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.95	@	1.00
Container Manila	.80	@	.90
Old Kraft	2.25	@	2.50
Common Paper	.50	@	.55
No. 1 Mixed Paper	.55	@	.60
Straw Board, Chip	.60	@	.65
Binders Board, Chip	.60	@	.65
Overissue News	.75	@	.80
Old Newspaper	.50	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	4.00
White, No. 2—			
Repacked	.02¾	@	.02¾
Miscellaneous	.01¾	@	.02
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.80	@	2.00
Black Stockings	3.75	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.25	@	—
No. 4	1.25	@	—
No. 5A	.85	@	.90
B	.80	@	.90
C	.70	@	.80

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05½	@	.06½
No. 2 Kraft	.04	@	.04¾
Common Bogus	.02	@	.02¾
Delivered New England points			
Straw Boards, rolls .009	52.50		
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp Lined Board	52.50	@	57.50
Single White, Patent Coated Newsboard Bender	70.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.60	@	—
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.45	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.20	@	1.25
White Blank News	1.55	@	1.65
Old Kraft	2.00	@	2.10
Print Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.65
Overissue News	.70	@	.80
Old Newspapers	.65	@	.67½
Box Board, Chip	.65	@	—

Bagging

(Price f. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.60
Manila Rope—			
Foreign	3.50	@	—
Domestic	3.25	@	3.50
Mixed Strings	.90	@	1.00
Scrap Burlaps	1.45	@	1.50
Scrap Sisal	1.25	@	1.50
Scrap Sisal for shredding	1.50	@	1.65
Wool Tares, heavy	—	@	1.50
New Burlap Cutting	2.00	@	2.25

Domestic Rags (New)

(Price f. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.09	@	.10
Silesias, No. 1	.06	@	.06½
New Unbleached	.09½	@	.10
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06	@	.06½
New Black, soft	.04	@	.04½
Khaki Cuttings	.04	@	.04½
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(Price f. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	3.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.00	@	2.15
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.75	@	1.85
No. 2	1.45	@	1.55
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.65	@	1.70
New No. 1 Shirt Cuttings	9.00	@	10.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	5.00	@	5.50
New Checks & Blues	4.50	@	4.65
Old Fustians	1.90	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	14.50	@	—
No. 2 Coated and Litho	13.50	@	—
No. 3 Coated and Litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.00	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	31.00
Sulphite easy bleaching	62.00	@	—
Sulphite news grade	62.00	@	—
Sulphite, bleached	75.00	@	—
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.80	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.11½	@	—
Fancy Shirt Cuttings	.05½	@	—

PATENTED

FIDALGO

Drying Systems

(Not connected with any Pulp Mfg. Co)

DRY PULP—SAME STRENGTH AS WET

Shredded or Fibre Form

Bales 250-450 Lbs. 40 Cu. Ft. to 2000 Lbs.

Higher Machine Speeds.

Higher Test Paper or Board

Clean—Compact

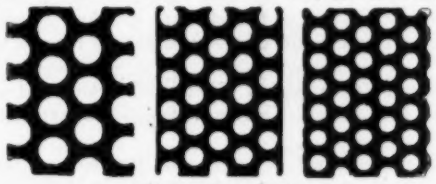
SAMPLE TEST SHEET EACH PACKAGE

Let us supply you with data showing result many tests & cooperate with you to have Pulp Mills supply in this improved form.

TECHNICAL ECONOMIST CORPORATION

40 RECTOR STREET NEW YORK N. Y.
TELEPHONE WHITEHALL 5243 CABLE "HERENCO"

PERFORATED METALS



of Every Description

For Pulp and Paper Mills

THE HARRINGTON & KING PERFORATING CO.

5652 Fillmore St., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.

The

ST. REGIS PAPER COMPANY

Daily Capacity 525 TONS

Newsprint
Catalog and Directory Papers
Fibre Wrapping Papers
Packers Oiled Manila
Specialties

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Pittsburgh, Pa.

The John W. Higman Co.

29 Broadway New York City

BEST GRADES OF

English China Clays

for

COATING AND FILLING

Finest Facilities in Central Territory

We manufacture all grades of Quality Box Board, specializing particularly in Patent Coated Boards. With a capacity of 125 tons daily, we meet the largest requirements promptly. Inquiries are invited.

STANDARD PAPER COMPANY

KALAMAZOO MICHIGAN

GENERAL Aluminum Sulphate CHEMICAL

GENERAL CHEMICAL COMPANY 40 RECTOR STREET, NEW YORK

Paper Mill Stocks and Bonds

Quoted by Taylor & White, 45 Wall street, New York City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	ASKED
Abitibi Power & Paper 5s, 1943	90	91
Abitibi Power & Paper 6s, serially to 1934	100	102
American Writing Paper 6s, 1947	81	87
Bastrop Pulp & Paper 6½s, 1940	103	105½
Bedford Pulp & Paper 6½s, 1942	97	100
Belgo-Canadian Paper 6s, 1943	100	103
British-Columbia Pulp & Paper 6s, 1950	89	92
Brown Paper Mills Serial 6s, 1941	97	100
Brown Company 5½s, 1946	98	101
Bryant Paper 6s, 1942	98	101½
Canadian Paper Board 7s, 19337	97	99½
Cape Breton Pulp & Paper 6s, 1932	103	...
Celotex Company 6s, 1929	95	99
Celotex Company 6½s, 1939	100	102
Celotex Company of Chicago, Debenture 6s, 1936	95	98
Central Paper Company Serial 6½s, 1942	86	89
Central Paper 7s, 1934	78	...
Champion Coated Paper Serial 6½s, 1934	100	...
Champion Coated Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 8s, 1930	95	...
Champion Paper Corp. 6s, 1945	95	98
Container Corp. of America Debenture 6s, 1936, ex-warrants	101	104
Continental Paper Products 6½s, 1943	90	99
Cornell Wood Products 7½s, 1937	103	...
Crown Willamette 6s, 1951	101	102
Delis Paper & Pulp Serial 6s, 1938	95	98
Dixon Board Mills Serial 6s, 1942	80	...
Donnaconna Paper 5½s, 1948	95	98
Eastern Manufacturing Co. 7s, 1938	97	100
Escanaba Paper Serial 6s, 1939	98	100
Escanaba Paper 6½s, 1935	96	99
Filer Fibre Serial 7s, 1935	90	95
Fort Irange Paper 7s, 1942	101	...
Fort William Paper 6s, 1946	100	104
Fraser Company 6s, 1950	103	105
Hammermill Paper Serial 6s, 1939	100	...
Hawley Pulp & Lumber 6s, 1946	96	...
Hawthorne Paper Company 6s, 1937	80	...
Hoberg Paper & Fibre 7s, 1937	94	97
Industrial Fibre Corp. Debenture 8s, 1933	100	...
International Paper 6s, 1955	102	103
International Paper 5s, 1947	98	100
Itasca Paper & Prairie River Power Serial 5½s, 1938	99½	...
Itasca Paper & Prairie River Power Serial 6s, 1938	99	...
Jessup & Moore First 6s, 1945	83	90
Kalamazoo Vegetable Parchment 6s, 1938	99	101
Lake Superior Paper 6s, 1941	105	108
Marathon Paper Mills Serial 5½s, 1942	99	101
Marinette & Menominee 7½s, 1936	103	105
Mead Pulp & Paper 5% Notes Serially, 1937	95	100
Mead Fibre 7s, 1937	97	101
Minnesota Ontario Paper Serial 6s, 1945	97½	100
Murray Bay Paper Serial 6½s, 1947	102	105
Munissing Paper Serial 6s, 1936	98	...
Nekoosa Edwards Paper 6s, 1928-42	96	...
Ontario Pulp & Paper 6s, 1931	108½	110½
Oreno Pulp & Paper 6s, 1943	99	...
Orono Pulp & Paper 5s, 1941	96½	...
Oswegatchie Paper Serial 6s, 1932	95	100
Oswego Falls Corp. 6s, 1941	99	102
Parker-Young Company 6½s, 1944	98	100
Paterson Parchment Paper 6s, 1938	101	103
Penobscot Chemical Fibre 6s, 1942	102	105
Port Alfred Pulp & Paper 5½s, 1947	98	100
Price Brothers 6s, 1943	105	...
Provincial Paper 5½s, 1947	98½	...
Queen City Paper 7s, 1933	98	...
River Raisin Paper 6s, 1936	98	100
Riordan Pulp & Paper 6s, 1942	102	104
Rolland Paper 6s, 1937	99	101
St. Croix Paper Serial 5s, 1937	99	...
St. Helen Pulp & Paper 6½s, 1931	99	102
St. Maurice Valley Corp. 6s, 1945	101	104
St. Maurice Valley Corp. 5½s, 1947	98½	100½
St. Regis Paper of Canada 6s, 1931	100	101½
St. Regis Paper of Canada 6½s, 1934	100	102
Smith (Howard) Paper Mills 7s, 1941	104	106
Spanish River Pulp & Paper 6s, 1931	108	110
Stevens-Thompson Paper 6s, 1942	94	96
Taggart Brothers 6s, 1944	95	100
Tait Paper & Color Industries 6s, 1934	88	92
Ticonderoga Pulp & Paper 5s, 1930	94	...
Ticonderoga Pulp & Paper 6s, 1940	100	102
Tomahawk Kraft Paper 6s, 1938	98	...
Tomahawk Pulp Paper 7s, 1932	99	...
Tonawanda Paper 5½s, Series 1941	99	102
Union Bag & Paper Power 6s, 1932	98	100
United Wall Paper Factories 6s, 1947	96	99
Warren (S. D.) Company 6s, 1945	103	105
Watab Paper 6½s, 1942	101	103½
Waterway Paper Products 6s, 1931	100	101½
Wayagamack Pulp & Paper 6s, 1951	103	105
Westfield River Paper Serial 7s, 1943	89	93
Whitmer-Parson Pulp & Lumber 8s, 1938	20	25
Whitaker Paper 7s, 1942	108	110

STOCKS	BID	ASKED
American Box Board, Pfd.	9¼	10¼
American Box Board, Com.	9¼	10¼
Am. Tissue Mills, 7% Pfd.	90	93
British Columbia P. & P. Pfd.	65	75
Brompton Pulp & Paper, 8% Pfd.	100	...
Champion Fibre, 7% Ffd.	108	110
Diem & Wing, 7% Pfd.	92	97
Eastern Mfg. Co. 1st Pfd.	55	...
Great Northern Paper, Com.	75	78
Hammermill Paper, new 6% Pfd.	100	...
Hinde & Dauch, Com.	125	None Off.
Hinde & Dauch, 6% Pfd.	102	None Off.
Holyoke Card & Paper	160	None Off.
Marathon Paper Mills, Com.	150	...
Mengel Co., Pfd.	102	104
Midwest Box Co., 8% Pfd.	98	102
Midwest Box Co., 6% Pfd.	95	99
Louis De Jonge Co., 7% Pfd.	94	97
Oxford Papers, Com.	195	...
Oxford Paper Co., Pfd.	108	111
Penobscot Chemical Fibre, Com.	80	...
Richardson Co., Com.	170	...
Rubberoid	95	101
Sabin Robbins Paper Co., 8% Pfd.	105	110
St. Croix Paper	155	...
St. Regis Paper Co., 7% Cum. Pfd.	105	108
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper Company	55	57
West Virginia Pulp and Paper, Pfd.	100	103
Whittaker Paper, 7% Cum. Pfd.	105	None Off.

Standard Envelope Co. To Award Plaque

The Standard Envelope Manufacturing Company, of Cleveland, Ohio, has offered a bronze plaque in a Silvertone envelope competition to be awarded at the Direct Mail Advertising Association Convention at Philadelphia, in October of this year, for the best design submitted by any printer, individual, or advertiser on a Silvertone envelope. Entries must be made within the next six weeks.

The rules governing the competition are as follows:—

1. Any advertiser, printer, paper merchant or individual is eligible to submit any number of examples of Silvertone envelopes used in a Direct Mail Campaign, but the same envelope or series of envelopes must not be submitted by more than one organization.

The judges appointed will be guided as follows:

2. The Silvertone Envelope which best demonstrates that "The Envelope is the First Impression," in distinctiveness and attention value, from the standpoint of color, typography and layout, will be awarded a bronze plaque, on which the winner's name will be cast in high relief, and which is to be retained in his permanent possession.

3. Three copies of each entry should be submitted. No entry will be considered which is received after 12:00 noon, October 7th, 1928. Specimens will not be returned.

4. No member of the Board of Governors of the Direct Mail Advertising Association, of the Standard Envelope Manufacturing Company, or any affiliated company, is eligible to enter this contest.

5. Entries must be marked "Silvertone Award" and mailed to The Direct Mail Advertising Association, 431 Howard street, Detroit, Mich.

The bronze plaque will be exhibited at the booth of The Standard Envelope Manufacturing Company at the Exhibit of the D. M. A. A. in Philadelphia, Octooer 17-19, and the award will be made at the convention, and announced in the trade press.

International Develops Mulch Paper

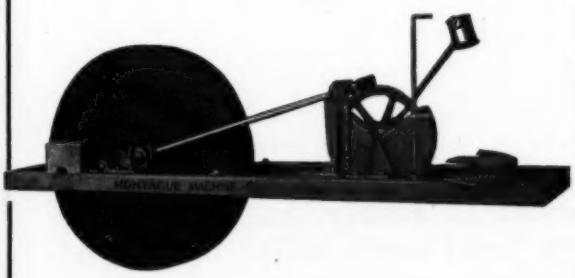
In line with its policy of diversification, the International Paper Company has secured patent rights to manufacture Mulch Paper. The Mulch Paper of the company is kraft paper impregnated with asphalt, and is a remarkable development both in the paper industry and in agriculture. Through its use the yield of varied farm products has been increased, as much as 500 per cent.

The company had Mulch Paper exhibits last week in the State Fair at Syracuse, New York, and in the fair at Rochester, New Hampshire. This week the company has exhibits in the State of Maine Fair at Lewiston, and in the State Fair at Hartford, Connecticut. At these exhibits, there is available literature on the use and importance of Mulch Paper, including a bulletin published by the United States Department of Agriculture on crop-plant stimulation with Mulch Paper.

The kraft paper—the base of Mulch Paper—is made at the Bastrop, Louisiana, mills of the company. These are two of a group of kraft paper mills which the company has in the southern United States, and which make the company the largest manufacturer of kraft paper in the world.

Automatic White Water Sampler

(Patent applied for.)



Mills in increasing number are installing this specialty. It does away with the human factor which is fallible and too expensive for the purpose which the Sampler serves.

It tells an authentic day-by-day story of prevailing white water conditions and operation costs nothing.

Ask for Bulletin W-1.

Montague Machine Co.

Turners Falls, Mass.

PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SEVENTH YEAR

Published Every Thursday by the

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PULVERIZED CLAY
WASHED CLAY

To safeguard our obligations to supply the clay requirements of many large paper mills we are now installing duplicate mechanical equipment.

This will safely and quickly care for extra emergency requirements and guarantee steady output against any of the usual contingencies.

R. T. VANDERBILT CO.
50 E. 42nd Street
New York